FIRST DAYS IN NUMBER

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FIRST DAYS IN NUMBER

A PRIMER OF ARITHMETIC

BY

DELLA VanAMBURGH

SILVER, BURDETT AND COMPANY
NEW YORK BOSTON CHICAGO

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PREFACE.

It is not the purpose of this book to *teach* number facts to the primary pupil. Education is development, and especially is this true of the best primary work. The mind of the child just entering school is bent upon investigation, exploration, and discovery. It is the privilege of the primary teacher to guide this investigation, furnish proper and fruitful environment for exploration, and teach the child the use of the best written and spoken language in which he may tell of his discoveries.

There is no broader field for the free development of the child mind than is to be found in number work. The child needs only to be invited and he will discover many facts concerning his home, birds, animals, flowers, fruits, and forms; in short, he will discover the world in which he lives.

It is the purpose of this book to *emphasize* the discoveries the pupil makes in his explorations in the world of number, and to furnish help and means by which he may express these facts to others and record them for himself. It is sincerely desired that the teacher who may use this book will not present the work as a *basis* for the number lesson. Each page should be made the *result* of investigation and original research, in which the pupil is led to discover the facts he finds expressed upon the page.

This book is designed to furnish systematic written work for the pupil, in which he finds expressed in written words, figures, and signs the facts he must have discovered and expressed understandingly in the oral lessons.

Number work, as well as every phase of primary education, should be made a delight and the children should be happy in its accomplishment.

DELLA VANAMBURGH.

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SUGGESTIONS.

CONVERSATIONAL LESSONS.

One of the first essentials in primary education is the ability of the pupil to talk without restraint and in good language. To correlate this phase of development with number work lends interest to the lesson, inspires self-confidence in the pupil, awakens the child mind to the realization of the wonders it is his privilege to explore. Number work is one of the means of the primary teacher by which the natural investigating tendency of the child may be turned into channels where he will make discoveries concerning the truths of nature and the inventions of man.

The pictures throughout the book are not in any way designed to take the place of actual objects. Such objects as are attractive and interesting to the pupil are represented. They are familiar to him, and yet they suggest many avenues of study to the skilful teacher.

The first few pages are suggestions for conversational work. Objects of life have been chosen because the animal kingdom naturally interests the child mind. Quadruped, biped, bird, fish, and insect are represented. The child is easily led to observe, study, and classify the animals around him. He is interested in observing the many kinds belonging to one class and in studying separately and comparatively their forms, foods, homes, habits, and usefulness. In this work, number appeals incidentally to the mind and little need be said in regard to it.

Page 10 represents the inventions of man. The objects suggested should be studied with a purpose of discovering something of their manufacture, the material used, their parts, and their distinctive usefulness.

Fruits and flowers invite the pupil to study nature. Fruits suggest the study of color, form, leaves, trees, vines, buds, blossoms, seeds, pulp, skins, juices, and the condition of the country and climate in which the tree is found. Flowers suggest the study of plants, leaves, roots, stems, buds, petals, pistils, stamens, form, size, color, individual characteristics, condition of the soil, and the season in which the plant grows and blossoms.

The children should be invited to gather a *specified* number of flowers, leaves, twigs, or buds of a *certain* kind. It is well to give the pupil a definite task. Failure of earnest effort to accomplish a purpose is of more value than undefined results attained at random. The child who diligently searches for *eight maple* leaves and fails to find one has really accomplished more than the pupil who has been told to gather a few leaves and presents scores of them of every variety.

GEOMETRICAL FORMS.

Many of the lessons lead to the study of the simplest of geometrical forms. It is very desirable that the pupil make his own material for use in this work by cutting squares, triangles, and circles from colored paper; and moulding spheres, cylinders, and cubes from clay or cutting them from small potatoes. The facts expressed upon pages 57, 58, 59, and other similar pages, are capable of being represented by drawings or by pasting colored forms upon a sheet of paper. This is a delightful occupation for little people and one that requires thought and care.

ANALYSIS.

A simple form of analysis is presented, as on pages 21, 26, 32. These lessons make practical application of the facts that have been discovered in the preceding work. Great care should be taken that the pupil be quite familiar with every word occurring on the page before the lesson is presented. If possible, use the real objects mentioned in the problems and allow the children to act out the thought expressed. When the pupil is familiar with the thought, he may read the analysis and supply the missing words. He should then copy the page, giving attention to arrangement, paragraphing, punctuation, neatness, and accuracy.

MONEY.

Money should be studied with real coins in the hands of the teacher and, if possible, toy money in the hands of the pupils. It is well to allow the children to buy and sell, setting their own prices and making their own change. They will discover in this work the facts expressed upon the pages devoted to money transactions, which should be studied orally and then written with all blanks filled.

TIME.

Make a thorough study of the calendar. Teach the names of the months, the days of the week, the seasons, and the months included in each season. Note the time of the change of the seasons and the effects of the change upon the woods and the field.

It is interesting to make a suggestive calendar each month and keep a record of the attendance, of holidays, bright and cloudy days, snowstorms, and rain.

Study the watch and the clock. The reading of the time from the face of a clock or watch is fascinating to children.

MEASURE.

A clear idea of the pint, quart, gallon, peck, and bushel, inch, foot, and yard can only be obtained from the real measures. The pupil should do as much real measuring as possible. He is interested in measuring water and sand. He should make a foot measure and a yard stick, or a yard tape-measure, with which he may find the dimensions of his desk, the room, windows, tables, chairs, his height, etc.

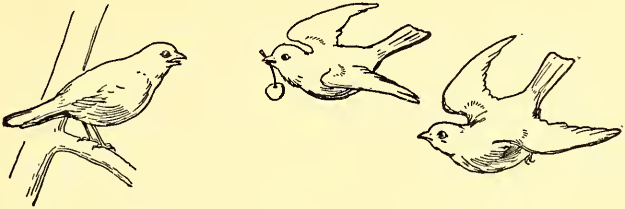
NUMBER LANGUAGE LESSONS.

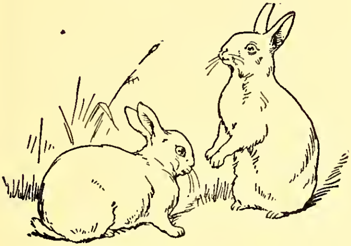
A series of number essays are interspersed throughout the book, as on pages 39, 92, and 104. These lessons require the pupil to make independent investigation. The pupil should write these little essays with the utmost care.

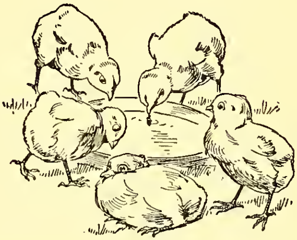
GENERAL.

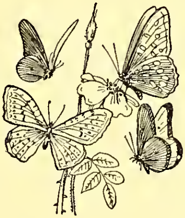
To obtain the best results, no written work should be required of the pupil before the teacher is quite sure that he is able to express understandingly in spoken words the statement desired in writing. Each and every page is designed to be reproduced by the pupil. This may be accomplished in various ways: by grouping objects, pasting forms, drawing, or writing. To vary the written work, the word may be used where the figure and sign occur; and the figure and sign may be exchanged for the word.

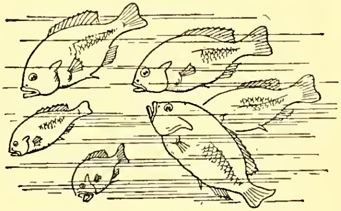
The pupil should always have sufficient assistance and means of helping himself, whether it be little or very much, to insure a clear understanding and absolute accuracy.

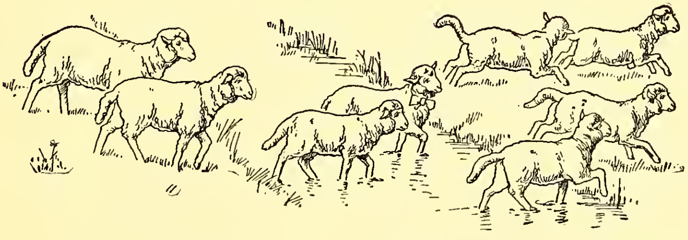


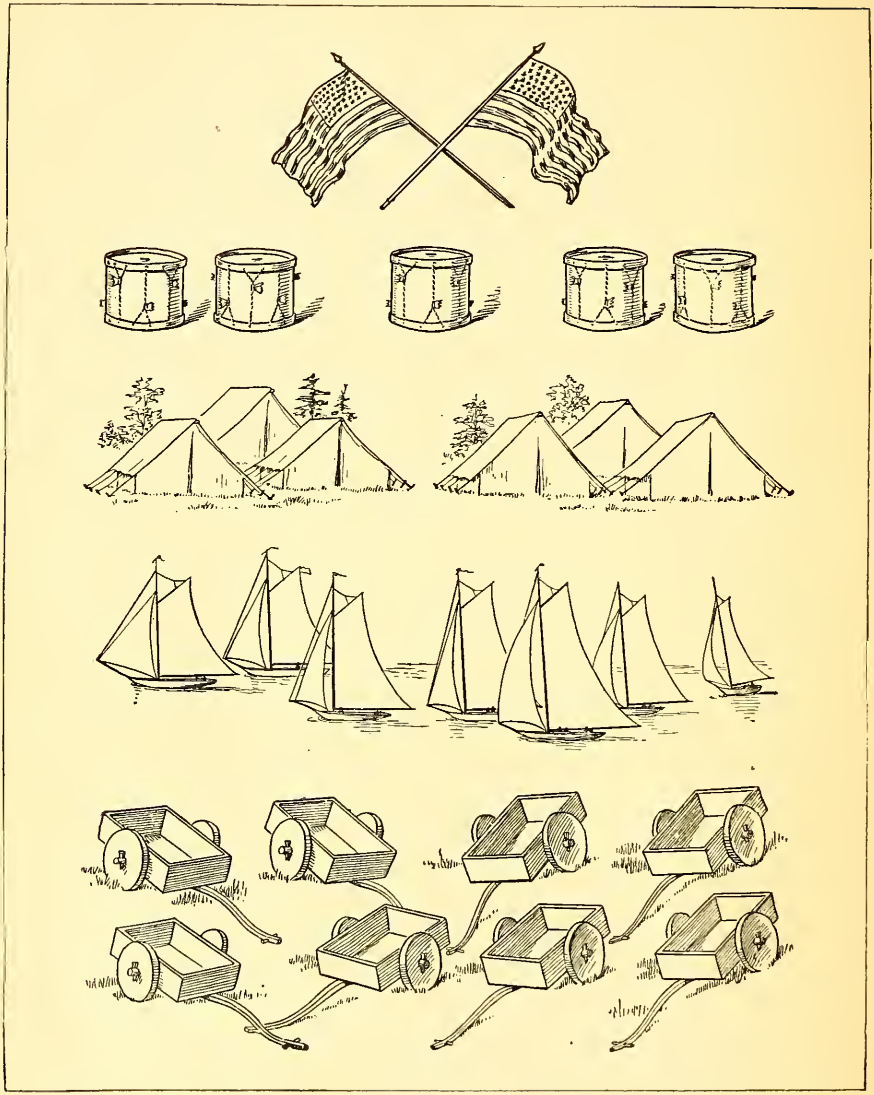


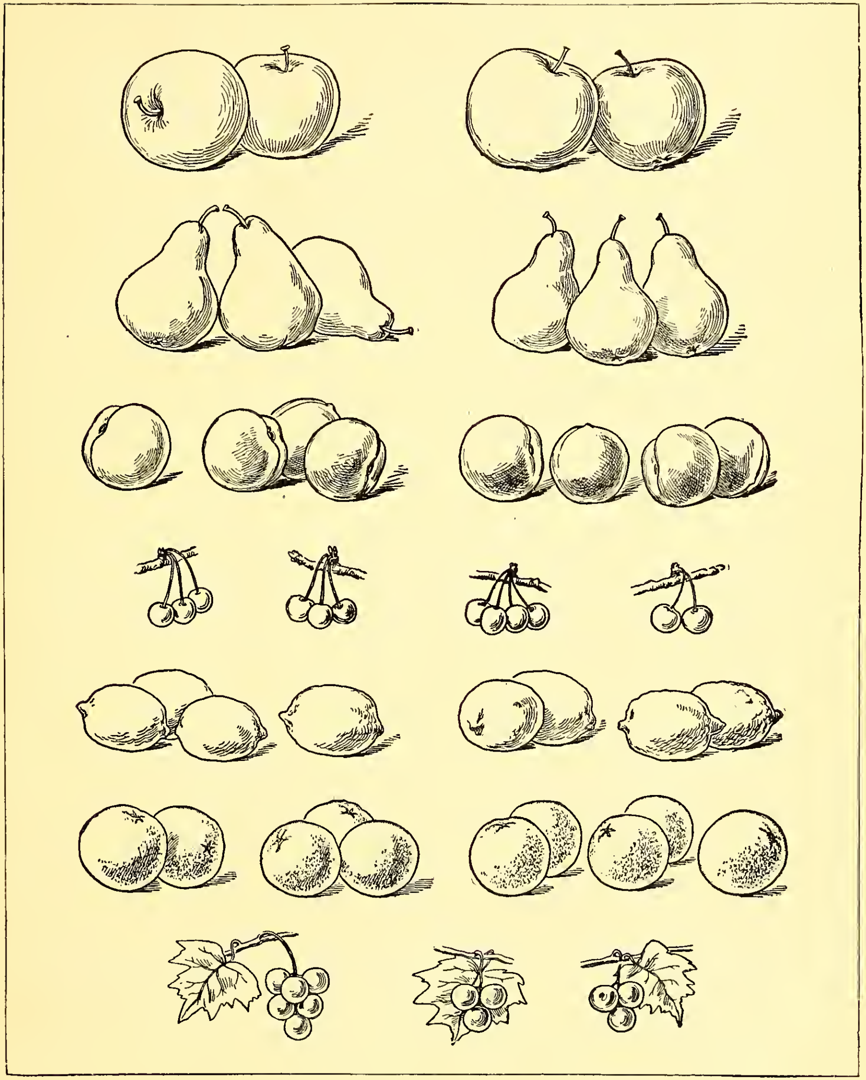


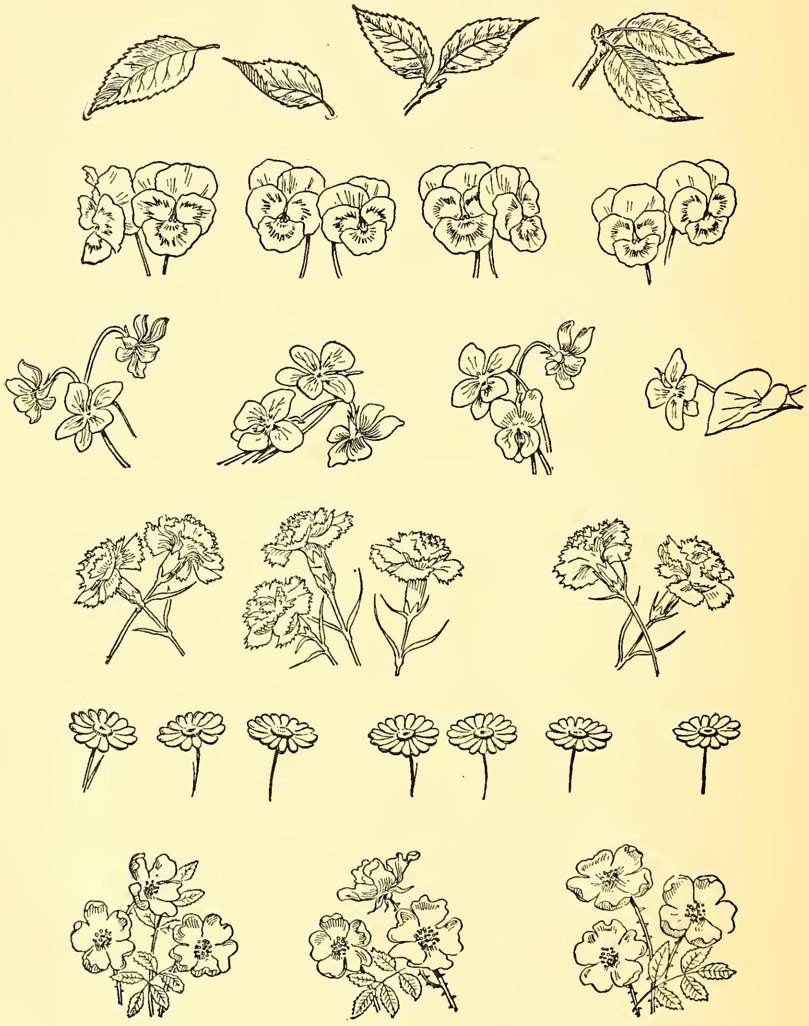


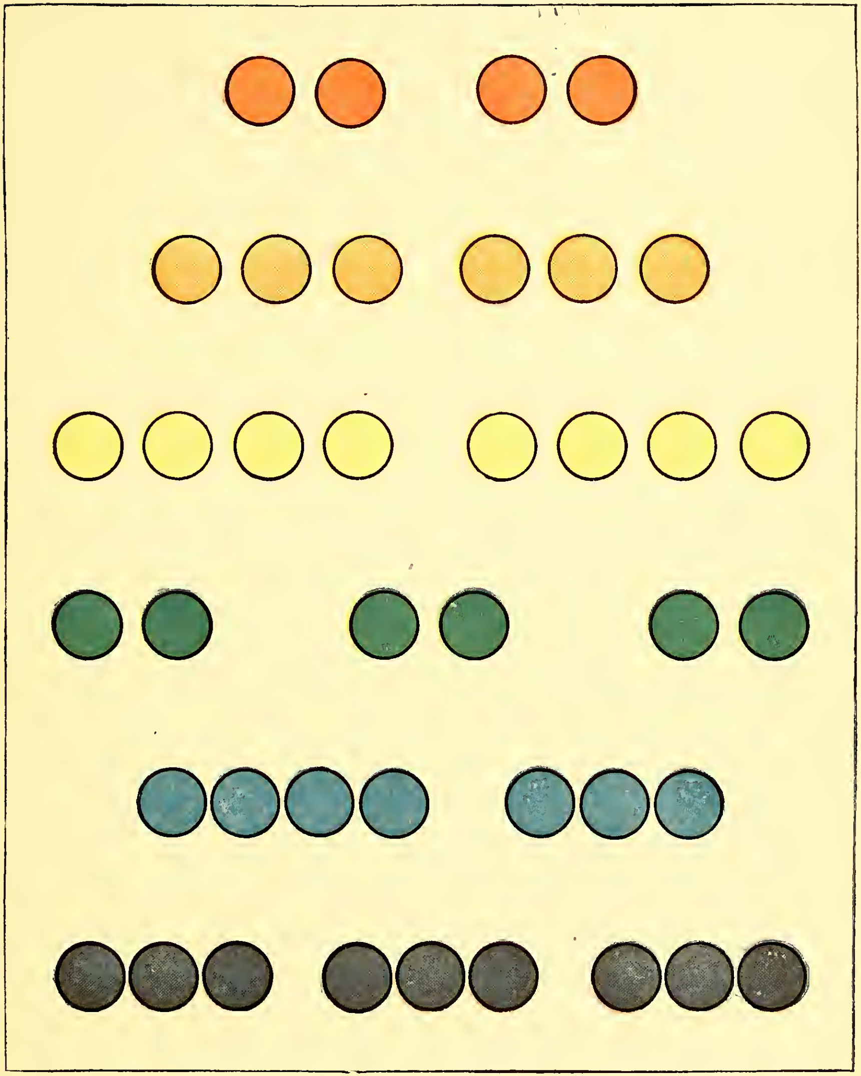


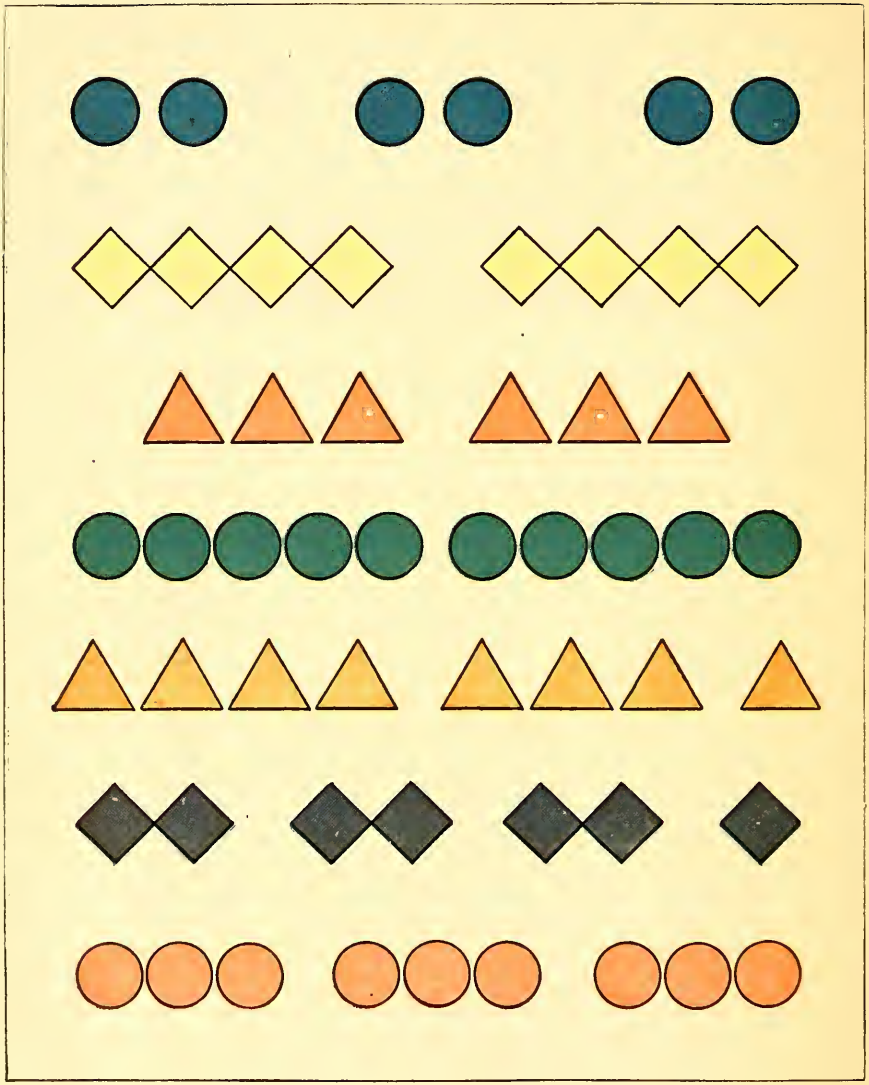












1

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3 3 3

4 4 4 4

5 5 5 5 5

6 6 6 6 6 6

7 7 7 7 7 7 7

8 8 8 8 8 8 8 8

9 9 9 9 9 9 9 9 9

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

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1 2 3 4 5 6 7

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10

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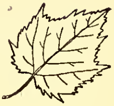
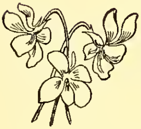
and



1 + 1



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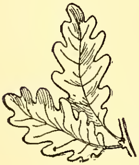
3 + 1



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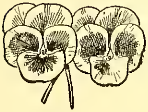
2 + 1



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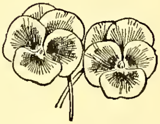
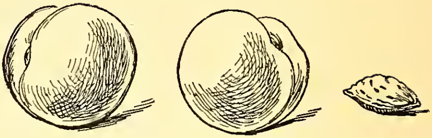
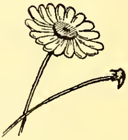


2 + 2

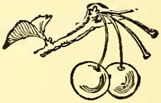
−
less
minus



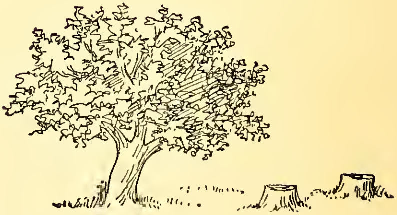
3 − 1



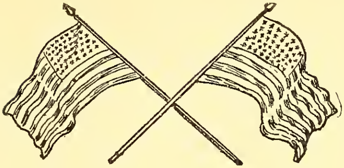
2 − 1



4 − 2



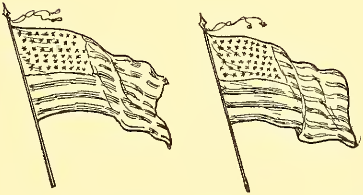
3 − 2



2 = Two two = II

Two two

$1 + 1 = ?$ $2 + ? = 2$ $2 - 0 = ?$
$2 + 0 = ?$ $? + 2 = 2$ $2 - ? = 1$
$0 + 2 = ?$ $2 - 1 = ?$ $2 - ? = 0$
$1 + ? = 2$ $2 - 2 = ?$ $2 - ? = 2$



1 flag + 1 flag = — flags.
2 flags - 1 flag = — flags.

One flag + one flag = — flags.
Two flags - one flag = — flag.
One flag and one flag are — flags.
Two flags less one flag is — flag.

2 flags are — more than 1 flag.
1 flag is — less than 2 flags.
Two flags are — more than one flag.
One flag is — less than two flags.

Two is — more than one.
Two is — more than naught.
One is — less than two.

Two is — more than 1.
Two is — more than 0.
One is — less than 2.

2 is — more than 1.
2 is — more than 0.
1 is — less than 2.

One-half of two flags is — flag.
½ of 2 flags = — flag.
One-half of two is —.
½ of 2 = —.

May has 1 flag. Nell has 1 flag. May and Nell have — flags; because 1 + 1 = 2.

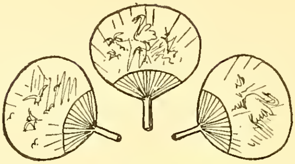
Ned had 2 flags. He lost 1 flag. Ned has — flag; because — — — — —.

Tom had 2 flags. He lost ½ of them. Tom lost — flag, because — — — — —.

Nell has 1 fan. May has 1 fan. Nell and May have — fans; because — — — — —.

Ned had 2 tops. He lost 1 top. Ned has — top; because — — — — —

Tom had 2 boats. He lost ½ of them. Tom lost — boat; because — — — — —.



3 = Three three = III

Three three

2 + ? = 3
1 + ? = 3
0 + ? = 3
3 + ? = 3

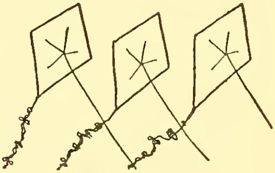
? + 2 = 3
? + 1 = 3
? + 0 = 3
? + 3 = 3

3 − 1 = ?
3 − 2 = ?
3 − 3 = ?
3 − 0 = ?

3 − ? = 1
3 − ? = 2
3 − ? = 0
3 − ? = 3

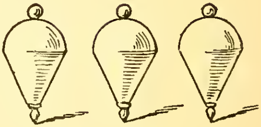
balls.

balls.



kites.

kites.



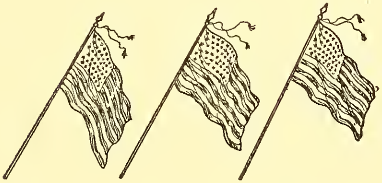
tops.

tops.

2 balls + 1 ball = — balls.
1 kite + — kites = 3 kites.
3 tops − 1 top = — tops.
3 kites − — kites = 1 kite.
3 kites − 1 kite = — kites.
3 balls − 2 balls = — ball.

One-third of 3 tents is — tent.
Two-thirds of 3 tents are — tents.
Three-thirds of 3 tents are — tents.

$\frac{1}{3}$ of 3 tents = — tent.
$\frac{2}{3}$ of 3 tents = — tents.
$\frac{3}{3}$ of 3 tents = — tents.



One-third of 3 flags is — flag.
Two-thirds of 3 flags are — flags.
Three-thirds of 3 flags are — flags.

$\frac{1}{3}$ of 3 flags = — flag.
$\frac{2}{3}$ of 3 flags = — flags.
$\frac{3}{3}$ of 3 flags = — flags.

3 balls are — more than 2 balls.
3 balls are — more than 1 ball.
1 ball is — less than 3 balls.
2 balls are — less than 3 balls.
3 tops are — more than 1 top.
3 tops are — more than 2 tops.
3 kites are — more than 1 kite.
2 kites are — less than 3 kites.
3 kites are — more than 2 kites.
1 kite is — less than 3 kites.
2 tops are — less than 3 tops.
1 top is — less than 3 tops.
3 fans are — more than 1 fan.

One-third of 3 kites is — kite.
$\frac{1}{3}$ of 3 kites = — kite.
One-third of 3 tops is — top.
$\frac{1}{3}$ of 3 tops = — top.
One-third of 3 balls is — ball.
$\frac{1}{3}$ of 3 balls = — ball.

Two and — are three.
One and — are three.
Three less two is —.
Three less one is —.
Three less — is naught.
One-third of three is —.
Two-thirds of three is —.
Three-thirds of three is —.

3 is — more than 2.
3 is — more than 1.
2 is — less than 3.
1 is — less than 3.

Three is — more than one.
Three is — more than two.
Two is — less than three.
One is — less than three.

Clara has 2 fans. Nell has 1 fan. Clara and Nell have — fans; because — — — — —.

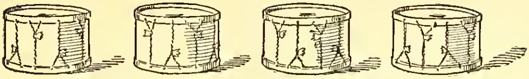
Ned has 1 flag. Tom has 2 flags. Ned and Tom have — flags; because — — — — —.

May had 3 balls. She lost 1 ball. May has — balls; because — — — — —.

Ned had 3 boats. He lost 2 boats. Ned has — boat; because — — — — —.

Nell had 3 flags. She lost $\frac{1}{3}$ of them. Nell lost — flag; because — — — — —.

May had 3 flags. She lost $\frac{2}{3}$ of them. May lost — flags; because — — — — —.



4 = Four four = IV

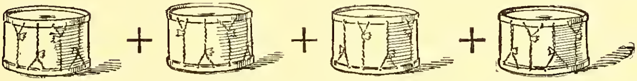
Four four

$3 + ? = 4$
$1 + ? = 4$
$2 + ? = 4$
$4 + ? = 4$

$? + 3 = 4$
$? + 2 = 4$
$? + 1 = 4$
$? + 4 = 4$

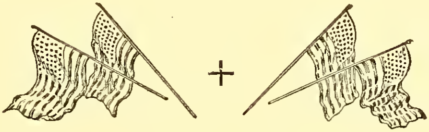
$4 - 1 = ?$
$4 - 2 = ?$
$4 - 4 = ?$
$4 - 3 = ?$

$4 - ? = 3$
$4 - ? = 1$
$4 - ? = 0$
$4 - ? = 2$



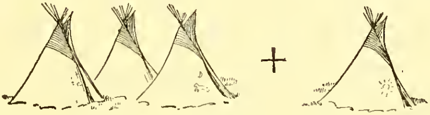
$1 + 1 + 1 + 1 = ?$

There are — 1's in four.



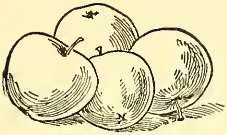
$2 + 2 = ?$

There are — 2's in four.



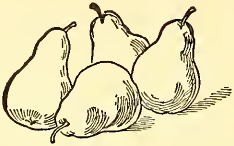
$3 + 1 = ?$

There is one 3 and — more in four.



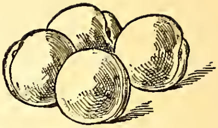
apples.

apples.



pears.

pears.



peaches.

peaches.

3 apples + 1 apple = ? apples.

2 pears + ? pears = 4 pears.

1 peach + ? peaches = 4 peaches.

4 apples − 2 apples = ? apples.

4 pears − 1 pear = ? pears.

4 peaches − ? peaches = 2 peaches.

? apples + 2 apples = 4 apples.

? peaches + 1 peach = 4 peaches.

? pears + 1 pear = 4 pears.

4 peaches − ? peaches = 2 peaches.

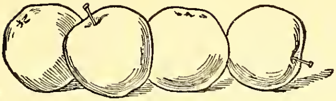
4 apples − ? apples = 1 apple.

4 pears − ? pears = 1 pear.

4 apples
−2 apples
? apples

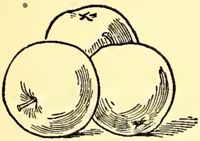
4 peaches
−1 peach
? peaches

4 pears
−? pears
1 pear

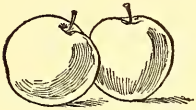


4 apples.

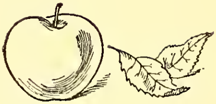
4 apples.



3 apples.



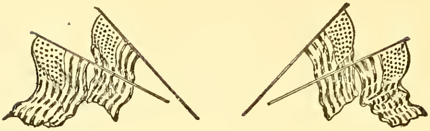
2 apples.

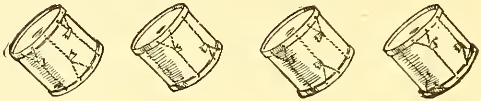


1 apple.

4 apples are ? more than 3 apples.
4 apples are ? more than 2 apples.
4 apples are ? more than 1 apple.
3 apples are ? less than 4 apples.
2 apples are ? less than 4 apples.
1 apple is ? less than 4 apples.

Four is — more than three.
Four is — more than two.
Four is — more than one.
Three is — less than four.
Two is — less than four.
One is — less than four.





One-half of 4 flags is — flags.

$\frac{1}{2}$ of 4 flags = — flags.

Two-halves of 4 flags are — flags.

$\frac{2}{2}$ of 4 flags = — flags.

One-fourth of 4 drums is — drum.

$\frac{1}{4}$ of 4 drums = — drum.

Two-fourths of 4 drums are — drums.

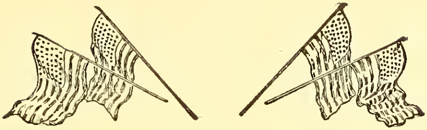
$\frac{2}{4}$ of 4 drums = — drums.

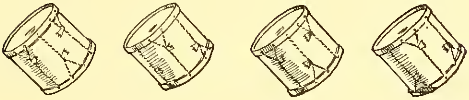
Three-fourths of 4 drums are — drums.

$\frac{3}{4}$ of 4 drums = — drums.

Four-fourths of 4 drums are — drums.

$\frac{4}{4}$ of 4 drums = — drums.





One-half of 4 is ?

$4 \div 2 = ?$

One-fourth of 4 is ?

$4 \div 4 = ?$

Two 2's are ?

$2 \times 2 = ?$

Four 1's are ?

$1 \times 4 = ?$

2 flags × 2 = ? flags.
4 drums ÷ ? = 1 drum.
4 drums × ? = 4 drums.

4 flags ÷ ? = 2 flags.
2 flags × ? = 4 flags.
1 drum × ? = 4 drums.

$\frac{1}{2}$ of 4 is ?
$\frac{2}{2}$ of 4 is ?

$\frac{1}{4}$ of 4 is ?
$\frac{2}{4}$ of 4 is ?

? is $\frac{1}{2}$ of 4.
? is $\frac{1}{4}$ of 4.

One-fourth of four is —.
Two-fourths of four is —.
One-half of four is —.
Two-halves of four is —.

John has 3 drums. Ned has 1 drum. John and Ned have — drums; because — — — — —.

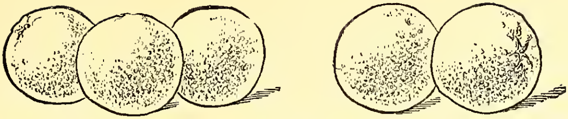
Nell has 2 fans. May has 2 fans. Nell and May have — fans; because — — — — —.

Carl had 4 drums. He sold 1 drum. Carl has — drums; because — — — — —.

Clara had 4 apples. She gave 2 aphles to John. Clara has — apples; because — — — — —.

Nell had 4 peaches. She gave $\frac{1}{2}$ of them to Carl. Carl has — peaches; because — — — — —.

John had 4 pears. He gave $\frac{1}{4}$ of them to Nell. Nell has — pear; because — — — — —.



5 = Five five = V

Five five

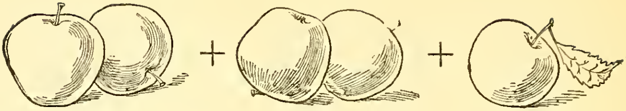
3 + ? = 5
4 + ? = 5
2 + ? = 5
1 + ? = 5
0 + ? = 5
5 + ? = 5

? + 4 = 5
? + 1 = 5
? + 0 = 5
? + 2 = 5
? + 3 = 5
? + 5 = 5

5 – 5 = ?
5 – 1 = ?
5 – 3 = ?
5 – 0 = ?
5 – 4 = ?
5 – 2 = ?

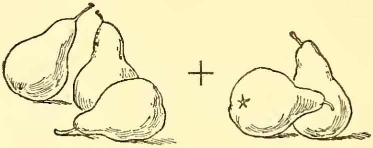
5 – ? = 5
5 – ? = 4
5 – ? = 2
5 – ? = 0
5 – ? = 1
5 – ? = 3

4 oranges + 1 orange = ? oranges.
2 apples + ? apples = 5 apples.
1 pear + ? pears = 5 pears.
3 peaches + 2 peaches = ? peaches.
? oranges + 3 oranges = 5 oranges.
5 pears – 3 pears = ? pears.
5 apples – 1 apple = ? apples.
5 oranges – 2 oranges = ? oranges.



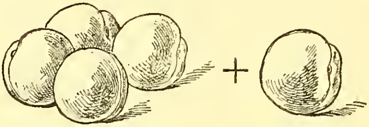
2 + 2 + 1 = ?

There are two 2's and — more in 5.



3 + 2 = ?

There is one 3 and — more in 5.



4 + 1 = ?

There is one 4 and — more in 5.

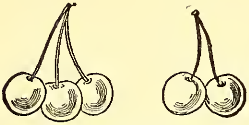
Two 2's and 1 are ?
2 times 2 and 1 are ?
2 × 2 + 1 = ?

One 3 and 2 are ?
1 time 3 and ? are 5.
3 × 1 + 2 = ?

One 4 and 1 are ?
1 time 4 and ? are 5.
4 × 1 + ? = 5.

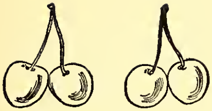
Five 1's are ?
5 times ? are 5.
1 × 5 = ?

NOTE. — Read the sign (×) "multiplied by."

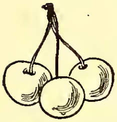


5 cherries.

5 cherries.



4 cherries.



3 cherries.

2 cherries.

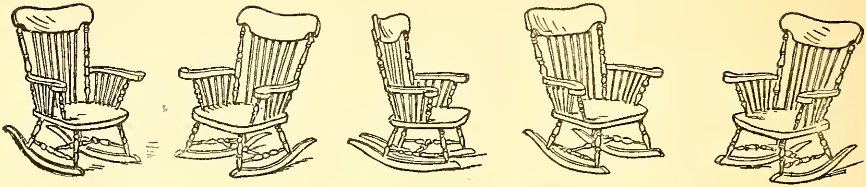
1 cherry.

5 cherries are ? more than 4 cherries.
5 cherries are ? more than 1 cherry.
5 cherries are ? more than 3 cherries.
5 cherries are ? more than 2 cherries.

1 cherry is ? less than 5 cherries.
3 cherries are ? less than 5 cherries
2 cherries are ? less than 5 cherries.
4 cherries are ? less than 5 cherries.

Five is — more than four.
Five is — more than two.
Five is — more than three.
Five is — more than one.

One is — less than five.
Three is — less than five.
Two is — less than five.
Four is — less than five.



One-fifth of 5 chairs is — chair.

$\frac{1}{5}$ of 5 chairs = — chair.

Two-fifths of 5 chairs are — chairs.

$\frac{2}{5}$ of 5 chairs = — chairs.

Four-fifths of 5 chairs are — chairs.

$\frac{4}{5}$ of 5 chairs = — chairs.

Three-fifths of 5 chairs are — chairs.

$\frac{3}{5}$ of 5 chairs = — chairs.

Five-fifths of 5 chairs are — chairs.

$\frac{5}{5}$ of 5 chairs = — chairs.

$\frac{1}{5}$ of 5 = ?
$\frac{4}{5}$ of 5 = ?
$\frac{2}{5}$ of 5 = ?
$\frac{3}{5}$ of 5 = ?
$\frac{5}{5}$ of 5 = ?

? is $\frac{1}{5}$ of 5.
? is $\frac{3}{5}$ of 5.
? is $\frac{2}{5}$ of 5.
? is $\frac{4}{5}$ of 5.
? is $\frac{5}{5}$ of 5.

Nell has 3 red cherries and 2 green cherries. Nell has — cherries; because — — — — —.

Clara has 4 yellow apples and 1 red apple. Clara has — apples; because — — — — —.

Carl had 5 flags. He broke 2 flags. He has — flags; because — — — — —

May had 5 pears. She gave $\frac{1}{5}$ of them to John. May gave John — pear. May has — pears; because — — — — —.

Ned had 5 oranges and sold $\frac{2}{5}$ of them. He sold — oranges; because — — — — —.

One peach costs 1 cent. Five peaches cost — cents; because — — — — —.

REVIEW.

Four + one = —.
Three + one = —.
Two + one = —.

Three − two = —.
Four − two = —.
Two − two = —.

$\frac{1}{2}$ of 4 flags = ?
$\frac{2}{2}$ of 4 flags = ?

$\frac{1}{3}$ of 3 kites = ?
$\frac{2}{3}$ of 3 kites = ?

$\frac{1}{4}$ of 4 tents = ?
$\frac{2}{4}$ of 4 tents = ?

1 apple × 2 = ?
1 orange × 3 = ?
2 peaches × 2 = ?

4 drums ÷ 2 = ?
5 chairs ÷ 5 = ?
3 balls ÷ 3 = ?

One peach has one seed. Four peaches have — seeds. Two peaches have — seeds.

Helen found four cherries. She ate one-half of them. Helen ate — cherries.

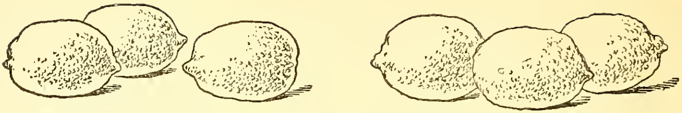
Two horses are — team. Four horses are — teams. Two teams are — horses.

——— ———.

My name is — —. I live in —, —. I attend the — School. My hair is — and my eyes are —. I am — years old. I have — brothers and — sisters. I have — pets, — toys, and — books.

I can name — colors. I think — is a very pretty color. I can name — fruits. I like the — better than any other fruit. I know the names of — flowers. The — is a very beautiful flower. I know the names of — birds. I like to hear the — sing.

I know — ways to be helpful to others.



6 = Six six = VI

Six six

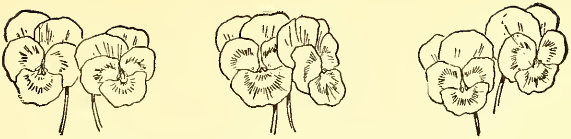
$5 + ? = 6$
$3 + ? = 6$
$4 + ? = 6$
$6 + ? = 6$
$2 + ? = 6$
$1 + ? = 6$
$0 + ? = 6$

$? + 5 = 6$
$? + 2 = 6$
$? + 1 = 6$
$? + 6 = 6$
$? + 0 = 6$
$? + 3 = 6$
$? + 4 = 6$

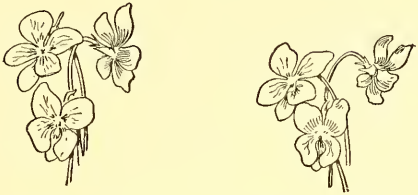
$6 - 1 = ?$
$6 - 4 = ?$
$6 - 2 = ?$
$6 - 5 = ?$
$6 - 6 = ?$
$6 - 0 = ?$
$6 - 3 = ?$

$6 - ? = 5$
$6 - ? = 0$
$6 - ? = 6$
$6 - ? = 4$
$6 - ? = 3$
$6 - ? = 1$
$6 - ? = 2$

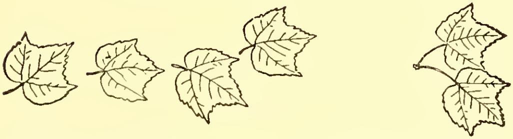
5 lemons + 1 lemon = ? lemons.
2 oranges + ? oranges = 6 oranges.
3 apples + ? apples = 6 apples.
1 pear + ? pears = 6 pears.
6 lemons − 3 lemons = ? lemons.
6 oranges − 1 orange = ? oranges.
6 pears − 2 pears = ? pears.
6 apples − 4 apples = ? apples.



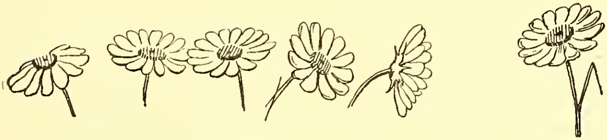
There are —— 2's in six.



There are —— 3's in six.



There is one 4 and ? more in six.



There is one 5 and ? more in six.

2 pansies × ? = 6 pansies.
3 violets × ? = 6 violets.
4 leaves + ? leaves = 6 leaves.
? daisies + 1 daisy = 6 daisies.

6 pansies ÷ 3 = ? pansies.
6 violets ÷ 2 = ? violets.
$\frac{1}{2}$ of 6 violets = ? violets.
$\frac{1}{3}$ of 6 pansies = ? pansies.

6 roses.

5 roses.

4 roses.

3 roses.

2 roses.

1 rose.

6 roses are ? more than 5 roses.
6 roses are ? more than 2 roses.
6 roses are ? more than 1 rose.
6 roses are ? more than 3 roses.
6 roses are ? more than 4 roses.

Six is — more than five.
Six is — more than two.
Six is — more than three.
One is — less than six.
Four is — less than six.
Three is — less than six.
Two is — less than six.

One-third of 6 leaves is — leaves.

$\frac{1}{3}$ of 6 leaves is — leaves.

Two-thirds of 6 leaves are — leaves.

$\frac{2}{3}$ of 6 leaves are — leaves.

Three-thirds of 6 leaves are — leaves.

$\frac{3}{3}$ of 6 leaves are — leaves.

One-half of 6 buds is — buds.

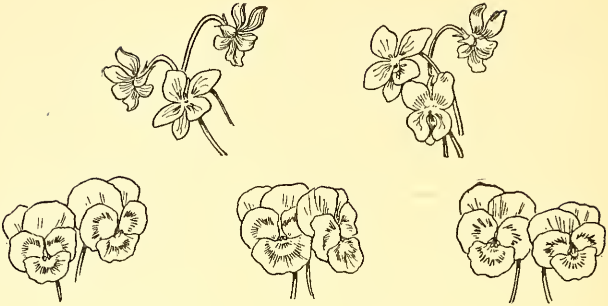
$\frac{1}{2}$ of 6 buds is — buds.

Two-halves of 6 buds are — buds.

$\frac{2}{2}$ of 6 buds are — buds.

$\frac{1}{3}$ of $6 = ?$
$\frac{2}{3}$ of $6 = ?$
$\frac{3}{3}$ of $6 = ?$

? is $\frac{1}{2}$ of 6.
? is $\frac{1}{3}$ of 6.
? is $\frac{2}{2}$ of 6.



3 violets × ? = 6 violets.

2 pansies × ? = 6 pansies.

$3 + 3 = ?$

$3 \times ? = 6$

$2 + 2 + 2 = ?$

$2 \times ? = 6$

$\frac{1}{2}$ of 6 violets = ? violets.

$\frac{1}{3}$ of 6 violets = ? violets.

$6 \div 2 = ?$

$6 \div 3 = ?$

$\frac{1}{2}$ of $6 = ?$

$\frac{1}{3}$ of $6 = ?$

1 violet × ? = 6 violets.

6 violets ÷ ? = 1 violet.

6 violets × ? = 6 violets.

6 violets ÷ ? = 6 violets.

$6 \times ? = 6$

$6 \div ? = 6$

$1 \times ? = 6$

$6 \div ? = 1$

Paul has 5 pansies. Charles has 1 pansy. They have — pansies; because — — — — —.

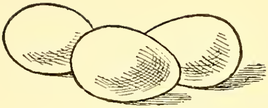
Clara had 6 roses. She gave 2 roses to Mina. Clara has — roses; because — — — — —.

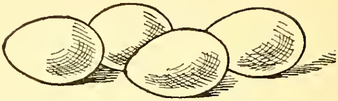
John had 6 violets. He lost ½ of them. John lost — violets; because — — — — —.

Charles had 6 violets. He gave ⅓ of them to Clara. Clara has — violets; because — — — — —.

John had 6 pansies. He gave ⅔ of them to Nell. Nell has — pansies; because — — — — —.

I have 3 leaves and John has 2 times as many. John has — leaves; because — — — — —.





7 = Seven seven = VII

Seven seven

6 + ? = 7
2 + ? = 7
3 + ? = 7
0 + ? = 7
4 + ? = 7
5 + ? = 7
1 + ? = 7
7 + ? = 7

? + 6 = 7
? + 7 = 7
? + 3 = 7
? + 0 = 7
? + 1 = 7
? + 5 = 7
? + 2 = 7
? + 4 = 7

7 − 1 = ?
7 − 4 = ?
7 − 7 = ?
7 − 2 = ?
7 − 0 = ?
7 − 3 = ?
7 − 5 = ?
7 − 6 = ?

7 − ? = 0
7 − ? = 4
7 − ? = 6
7 − ? = 3
7 − ? = 1
7 − ? = 5
7 − ? = 7
7 − ? = 2

Three eggs and — eggs are seven eggs.
Five eggs and — eggs are seven eggs.
Four eggs and — eggs are seven eggs.

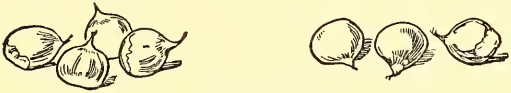
Seven eggs less three eggs are — eggs.
Seven eggs less two eggs are — eggs.
Seven eggs less four eggs are — eggs.
Seven eggs less one egg are — eggs.

There are —— 3’s and ? more in seven.

3 nuts + 3 nuts + 1 nut = ? nuts.

There are —— 2’s and ? more in seven.

2 nuts + 2 nuts + 2 nuts + 1 nut = ? nuts.



There is one 4 and ? more in seven.

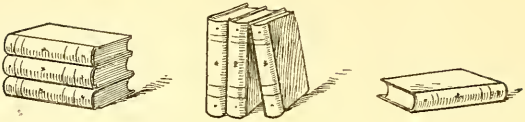
4 nuts + ? nuts = 7 nuts.

There is one 5 and ? more in seven.

5 nuts + ? nuts = 7 nuts.

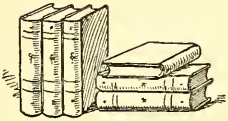
There is one 6 and ? more in seven.

6 nuts + 1 nut = ? nuts.

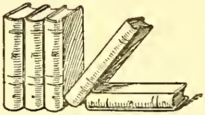


7 books.

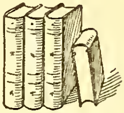
7 books.



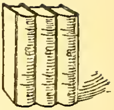
6 books.



5 books.



4 books.



3 books.

7 books are ? more than 6 books.

7 books are ? more than 4 books.

7 books are ? more than 3 books.

7 books are ? more than 1 book.

7 books are ? more than 2 books.

7 books are ? more than 5 books.

6 books are ? less than 7 books.

5 books are ? less than 7 books.

1 book is ? less than 7 books.

2 books are ? less than 7 books.

4 books are ? less than 7 books.

3 books are ? less than 7 books.

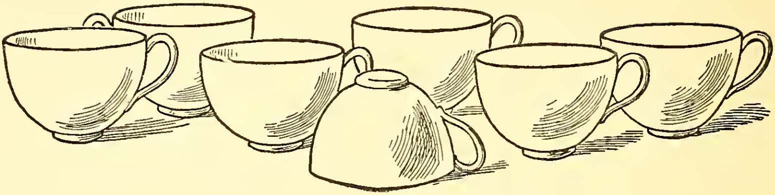
Seven is — more than six.
Seven is — more than four.
Seven is — more than two.
Seven is — more than three.
Seven is — more than one.
Seven is — more than five.

Six is — less than seven.
One is — less than seven.
Four is — less than seven.
Five is — less than seven.
Three is — less than seven.
Two is — less than seven.

7 is 2 more than ?
7 is 4 more than ?
7 is 6 more than ?
7 is 1 more than ?
7 is 3 more than ?
7 is 5 more than ?

6 is ? less than 7.
2 is ? less than 7.
4 is ? less than 7.

1 is ? less than 7.
3 is ? less than 7.
5 is ? less than 7.



One-seventh of 7 cups is — cup.
$\frac{1}{7}$ of 7 cups = — cup.

Two-sevenths of 7 cups are — cups.
$\frac{2}{7}$ of 7 cups = — cups.

Six-sevenths of 7 cups are — cups.
$\frac{6}{7}$ of 7 cups = — cups.

Five-sevenths of 7 cups are — cups.
$\frac{5}{7}$ of 7 cups = — cups.

Three-sevenths of 7 cups are — cups.
$\frac{3}{7}$ of 7 cups = — cups.

Four-sevenths of 7 cups are — cups.
$\frac{4}{7}$ of 7 cups = — cups.

$\frac{1}{7}$ of 7 = ?
$\frac{2}{7}$ of 7 = ?

? is $\frac{1}{7}$ of 7.
? is $\frac{4}{7}$ of 7.

1 is $\frac{1}{7}$ of ?
? is $\frac{7}{7}$ of 7.

Charles had 3 nuts and finds 4 nuts. Charles has — nuts; because — — — — — —.

Paul had 7 nuts and lost 5 nuts. Paul has — nuts; because — — — — — —.

Charles finds 7 eggs and breaks $\frac{1}{7}$ of them. Charles breaks — egg; because — — — — — —.

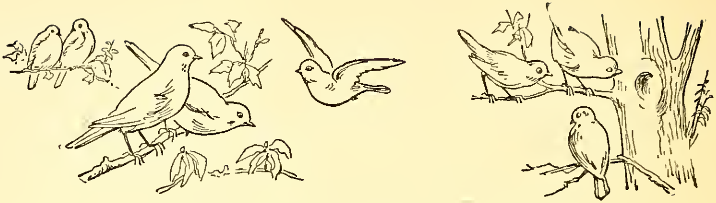
Clara had 7 cups and breaks $\frac{3}{7}$ of them. Clara breaks — cups; because — — — — — —.

John had 7 books and sells $\frac{6}{7}$ of them. John sells — books; because — — — — — —.

Ned gathered 4 baskets of walnuts and 3 baskets of chestnuts. Ned gathered — baskets of nuts; because — — — — — —.

Nell has found 7 apples. Four-sevenths of them are red apples. Nell has found — red apples; because — — — — — —.

John has made 5 snowballs. Ned has made 2 snowballs. The boys have made — snowballs; because — — — — — —.



8 = Eight eight = VIII

Eight eight

7 + ? = 8
4 + ? = 8
1 + ? = 8
3 + ? = 8
6 + ? = 8
2 + ? = 8
5 + ? = 8

? + 7 = 8
? + 2 = 8
? + 1 = 8
? + 4 = 8
? + 5 = 8
? + 3 = 8
? + 6 = 8

8 − 1 = ?
8 − 3 = ?
8 − 6 = ?
8 − 4 = ?
8 − 2 = ?
8 − 7 = ?
8 − 5 = ?

8 − ? = 4
8 − ? = 1
8 − ? = 3
8 − ? = 2
8 − ? = 7
8 − ? = 6
8 − ? = 5

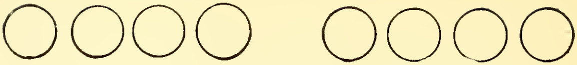
Helen saw five robins in the apple tree. Nell saw three bluebirds in the pear tree. The children saw — birds.

A robin ate six cherries. A bluebird ate two cherries. The birds ate — cherries.

1 nest + ? nests = 8 nests.
4 nests + ? nests = 8 nests.
2 nests + ? nests = 8 nests.
6 nests + ? nests = 8 nests.
3 nests + ? nests = 8 nests.
5 nests + ? nests = 8 nests.
7 nests + 1 nest = ? nests.

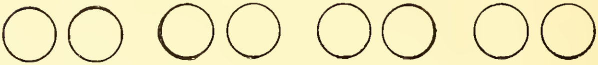
? eggs + 5 eggs = 8 eggs.
? eggs + 3 eggs = 8 eggs.
? eggs + 6 eggs = 8 eggs.
? birds + 2 birds = 8 birds.
? birds + 4 birds = 8 birds.
? birds + 1 bird = 8 birds.

8 nests − 5 nests = ? nests.
8 eggs − 1 egg = ? eggs.
8 birds − 4 birds = ? birds.
8 eggs − 3 eggs = ? eggs.
8 nests − 2 nests = ? nests.
8 birds − 6 birds = ? birds.
8 eggs − ? eggs = 1 egg.



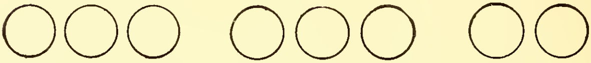
There are — 4's in eight.

There are — 4's in eight.



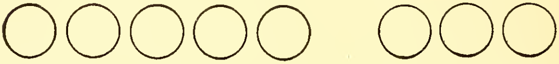
There are — 2's in eight.

There are — 2's in eight.



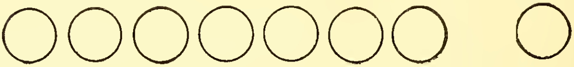
There are — 3's and — more in eight.

There are — 3's and — more in eight.



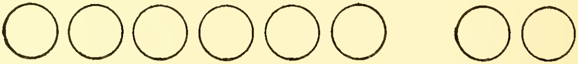
There is one 5 and — more in eight.

There is one 5 and — more in eight.



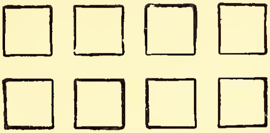
There is one 7 and — more in eight.

There is one 7 and — more in eight.



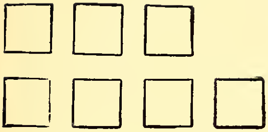
There is one 6 and — more in eight.

There is one 6 and — more in eight.

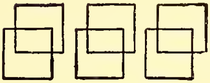


8 squares.

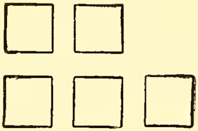
8 squares.



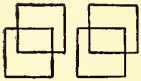
7 squares.



6 squares.



5 squares.



4 squares.

8 squares are ? more than 7 squares.

8 squares are ? more than 2 squares.

8 squares are ? more than 4 squares.

8 squares are ? more than 6 squares.

8 squares are ? more than 3 squares.

8 squares are ? more than 1 square.

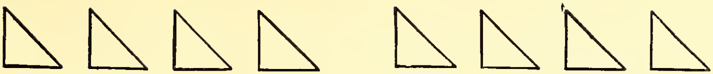
8 squares are ? more than 5 squares.

7 is ? less than 8.
6 is ? less than 8.
5 is ? less than 8.
4 is ? less than 8.
1 is ? less than 8.
3 is ? less than 8.

Eight is —— more than six.
Eight is —— more than seven.
Eight is —— more than four.
Eight is —— more than two.
Eight is —— more than three.
Eight is —— more than one.
Eight is —— more than five.
Eight is —— more than naught.

Seven is —— less than eight.
Four is —— less than eight.
One is —— less than eight.
Five is —— less than eight.
Three is —— less than eight.
Two is —— less than eight.
Six is —— less than eight.
Naught is —— less than eight.

Two nests are —— less than eight nests.
One bird is —— less than eight birds.
Five trees are —— less than eight trees.
Six eggs are —— less than eight eggs.



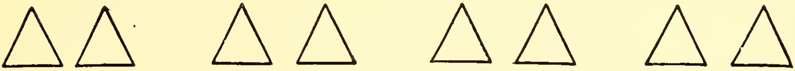
triangles

One-half of 8 triangles is — triangles.

$\frac{1}{2}$ of 8 triangles = ? triangles.

Two-halves of 8 triangles are — triangles.

$\frac{2}{2}$ of 8 triangles = ? triangles.



One-fourth of 8 triangles is — triangles.

$\frac{1}{4}$ of 8 triangles = ? triangles.

Two-fourths of 8 triangles are — triangles.

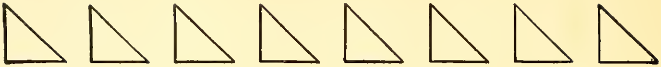
$\frac{2}{4}$ of 8 triangles = ? triangles.

Four-fourths of 8 triangles are — triangles.

$\frac{4}{4}$ of 8 triangles = ? triangles.

Three-fourths of 8 triangles are — triangles.

$\frac{3}{4}$ of 8 triangles = ? triangles.



One-eighth of 8 triangles is — triangle.

$\frac{1}{8}$ of 8 triangles = — triangle.

Three-eighths of 8 triangles are — triangles.

$\frac{3}{8}$ of 8 triangles = — triangles.

Five-eighths of 8 triangles are — triangles.

$\frac{5}{8}$ of 8 triangles = — triangles.

Four-eighths of 8 triangles are — triangles.

$\frac{4}{8}$ of 8 triangles = — triangles.

Two-eighths of 8 triangles are — triangles.

$\frac{2}{8}$ of 8 triangles = — triangles.

Six-eighths of 8 triangles are — triangles.

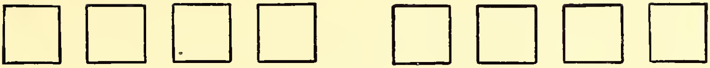
$\frac{6}{8}$ of 8 triangles = — triangles.

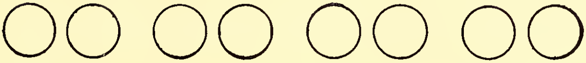
Eight-eighths of 8 triangles are — triangles.

$\frac{8}{8}$ of 8 triangles = — triangles.

Seven-eighths of 8 triangles are — triangles.

$\frac{7}{8}$ of 8 triangles = — triangles.





4 squares × ? = 8 squares.
2 circles × ? = 8 circles.

$4 + 4 = ?$
$4 \times ? = 8$

$2 + 2 + 2 + 2 = ?$
$2 \times ? = 8$

$\frac{1}{2}$ of 8 squares = ? squares.
$\frac{1}{4}$ of 8 squares = ? squares.

$8 \div 2 = ?$
$8 \div 4 = ?$

$\frac{1}{2}$ of $8 = ?$
$\frac{1}{4}$ of $8 = ?$

1 square × ? = 8 squares.
8 squares × ? = 8 squares.
8 squares ÷ ? = 1 square.
8 squares ÷ ? = 8 squares.

$8 \times ? = 8$
$1 \times ? = 8$

$8 \div ? = 1$
$8 \div ? = 8$

Helen had 7 cents and earned 1 cent. Helen has —— cents; because — — — — — —.

John had 8 cents and spent 3 cents. John has —— cents; because — — — — — —.

Clara had 8 cents and gave Helen $\frac{1}{2}$ of them. Helen has —— cents; because — — — — — —.

John had 8 cents and spent $\frac{1}{4}$ of them. John spent —— cents; because — — — — — —.

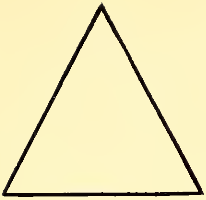
Helen has 4 cents. Clara has 2 times as many. Clara has —— cents; because — — — — — —.

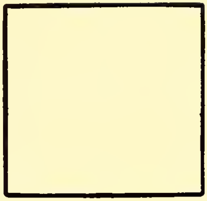
Clara had 8 cents and spent $\frac{3}{4}$ of them. Clara spent —— cents; because — — — — — —.

Doris has 8 flowers. One-half of them are roses. Doris has —— roses; because — — — — — —.

Helen has found 8 leaves. One-fourth of them are yellow leaves. Helen has found —— yellow leaves; because — — — — — —.

Ralph has gathered 8 baskets of nuts. Two-fourths of them are chestnuts. Ralph has —— baskets of chestnuts; because — — — — — —.





corner corners edge edges

corner corners edge edges

One triangle has — corners.
Three triangles have — corners.

One triangle has — edges.
Two triangles have — edges.

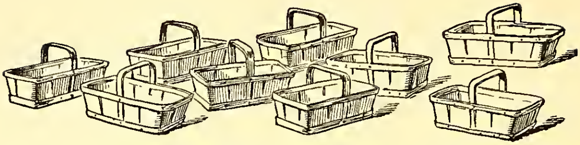
One triangle has — edges.
Four triangles have — edges.

One square has — corners.
Two squares have — corners.

One square has — edges.
Three squares have — edges.

One square has — corners.
Four squares have — corners.

One square has — corners.
Five squares have — corners.



9 = Nine nine = IX

Nine nine

8 + ? = 9
4 + ? = 9
6 + ? = 9
2 + ? = 9
3 + ? = 9
0 + ? = 9
1 + ? = 9
5 + ? = 9
7 + ? = 9

? + 1 = 9
? + 7 = 9
? + 3 = 9
? + 5 = 9
? + 0 = 9
? + 6 = 9
? + 4 = 9
? + 8 = 9
? + 2 = 9

9 – 1 = ?
9 – 6 = ?
9 – 5 = ?
9 – 2 = ?
9 – 4 = ?
9 – 0 = ?
9 – 3 = ?
9 – 8 = ?
9 – 7 = ?

9 – ? = 4
9 – ? = 7
9 – ? = 1
9 – ? = 2
9 – ? = 5
9 – ? = 3
9 – ? = 9
9 – ? = 8
9 – ? = 6

Nell gathered five baskets of daisies. May gathered four baskets of violets. The children gathered — baskets of flowers.

8 baskets + 1 basket = ? baskets.
4 baskets + ? baskets = 9 baskets.
2 baskets + ? baskets = 9 baskets.
7 baskets + ? baskets = 9 baskets.
3 baskets + ? baskets = 9 baskets.
1 basket + ? baskets = 9 baskets.
5 baskets + ? baskets = 9 baskets.
6 baskets + ? baskets = 9 baskets.

9 triangles − 7 triangles = ? triangles.
9 circles − 4 circles = ? circles.
9 squares − 2 squares = ? squares.
9 triangles − 6 triangles = ? triangles.
9 squares − 1 square = ? squares.

? nests + 1 nest = 9 nests.
? eggs + 4 eggs = 9 eggs.
? birds + 3 birds = 9 birds.
? leaves + 5 leaves = 9 leaves.
? violets + 7 violets = 9 violets.

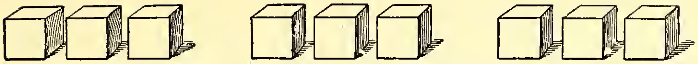
9 peaches — 4 peaches = ? peaches.
9 apples — 3 apples = ? apples.
9 cherries — 7 cherries = ? cherries.
9 grapes — 6 grapes = ? grapes.
9 pears — 1 pear = ? pears.
9 oranges — 2 oranges = ? oranges.
9 lemons — 5 lemons = ? lemons.
9 nuts — ? nuts = 1 nut.

9 flags — ? flags = 1 flag.
9 kites — ? kites = 7 kites.
9 books — ? books = 4 books.
9 balls — ? balls = 3 balls.
9 drums — ? drums = 2 drums.
9 fans — ? fans = 6 fans.
9 tops — ? tops = 5 tops.
9 tents — 1 tent = ? tents.

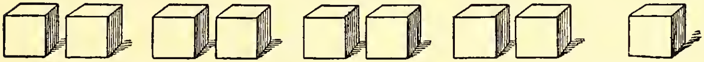
4 pears
3 pears
? pears
9 pears

2 nuts
4 nuts
? nuts
9 nuts

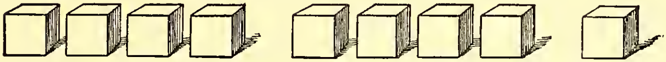
1 grape
4 grapes
? grapes
9 grapes



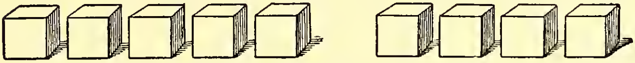
There are — 3's in nine.



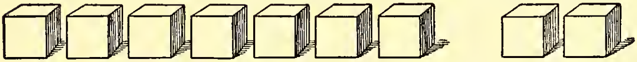
There are — 2's and — more in nine.



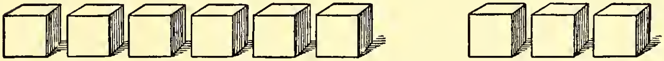
There are — 4's and — more in nine.



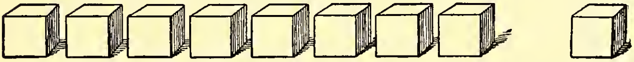
There is one 5 and — more in nine.



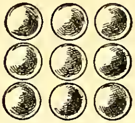
There is one 7 and — more in nine.



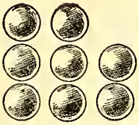
There is one 6 and — more in nine.



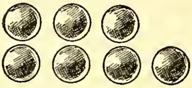
There is one 8 and — more in nine.



9 spheres.



8 spheres.



7 spheres.

6 spheres.

5 spheres.

9 spheres are ? more than 8 spheres.

9 spheres are ? more than 4 spheres.

9 spheres are ? more than 6 spheres.

9 spheres are ? more than 1 sphere.

9 spheres are ? more than 3 spheres.

9 spheres are ? more than 2 spheres.

9 spheres are ? more than 5 spheres.

9 spheres are ? more than 7 spheres.

8 spheres are ? less than 9 spheres.

6 spheres are ? less than 9 spheres.

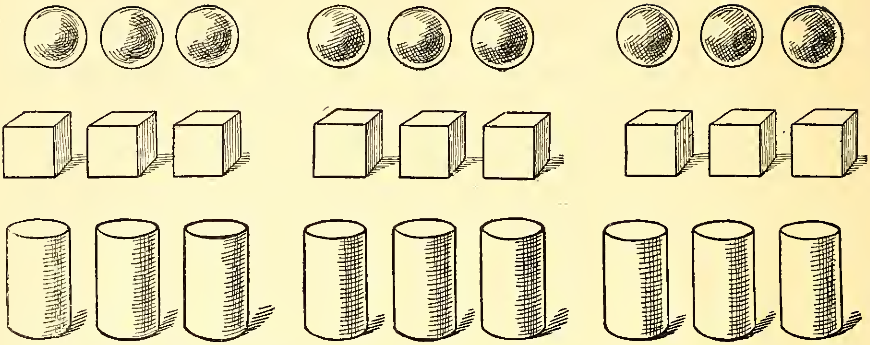
5 spheres are ? less than 9 spheres.

7 spheres are ? less than 9 spheres.

Nine is —— more than eight.
Nine is —— more than two.
Nine is —— more than six.
Nine is —— more than four.
Nine is —— more than one.
Nine is —— more than three.
Nine is —— more than seven.
Nine is —— more than five.

Eight is —— less than nine.
Six is —— less than nine.
Four is —— less than nine.
Two is —— less than nine.
One is —— less than nine.
Three is —— less than nine.
Five is —— less than nine.
Seven is —— less than nine.

3 cubes	4 cubes	2 cubes
3 cubes	4 cubes	2 cubes
? cubes	1 cube	? cubes
9 cubes	? cubes	9 cubes



One-third of 9 spheres is —— spheres.

$\frac{1}{3}$ of 9 spheres = ? spheres.

Two-thirds of 9 spheres are —— spheres.

$\frac{2}{3}$ of 9 spheres = ? spheres.

One-third of nine cubes is —— cubes.

$\frac{1}{3}$ of 9 cubes = ? cubes.

Three-thirds of 9 cubes are —— cubes.

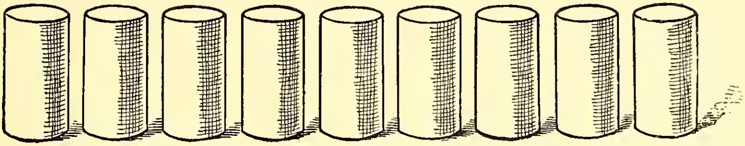
$\frac{3}{3}$ of 9 cubes = ? cubes.

One-third of nine cylinders is —— cylinders.

$\frac{1}{3}$ of 9 cylinders = ? cylinders.

Two-thirds of 9 cylinders are —— cylinders.

$\frac{2}{3}$ of 9 cylinders = ? cylinders.



cylinders.

One-ninth of 9 cylinders is —— cylinder.

$\frac{1}{9}$ of 9 cylinders = —— cylinder.

Three-ninths of 9 cylinders are —— cylinders.

$\frac{3}{9}$ of 9 cylinders = —— cylinders.

Six-ninths of 9 cylinders are —— cylinders.

$\frac{6}{9}$ of 9 cylinders = —— cylinders.

Nine-ninths of 9 cylinders are —— cylinders.

$\frac{9}{9}$ of 9 cylinders = —— cylinders.

Five-ninths of 9 cylinders are —— cylinders.

$\frac{5}{9}$ of 9 cylinders = —— cylinders.

1 is $\frac{1}{9}$ of 9.
2 is $\frac{?}{9}$ of 9.

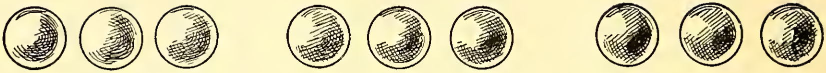
1 is $\frac{1}{9}$ of 9.
4 is $\frac{?}{9}$ of 9.

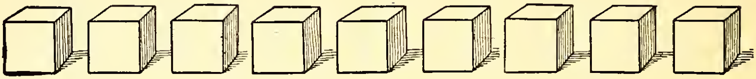
1 is $\frac{1}{9}$ of 9.
8 is $\frac{?}{9}$ of 9.

1 is $\frac{1}{9}$ of 9.
? is $\frac{5}{9}$ of 9.

1 is $\frac{1}{9}$ of 9.
? is $\frac{7}{9}$ of 9.

1 is $\frac{1}{9}$ of 9.
? is $\frac{6}{9}$ of 9.





3 spheres × ? = 9 spheres.
1 cube × ? = 9 cubes.

3 × ? = 9
1 × ? = 9

? × 3 = 9
? × 9 = 9

$\frac{1}{3}$ of 9 spheres = — spheres.
$\frac{1}{9}$ of 9 cubes = — cube.

9 ÷ 3 = ?
9 ÷ 9 = ?
9 ÷ 1 = ?

$\frac{1}{3}$ of 9 = ?
$\frac{1}{9}$ of 9 = ?
$\frac{2}{9}$ of 9 = ?

9 spheres ÷ **3** = ? spheres.
9 cubes ÷ **1** = ? cubes.
9 spheres ÷ ? = **1** sphere.

Helen had 6 pansies. She finds 3 pansies. Helen has — pansies; because — — — — —.

Clara had 9 roses. She lost 4 roses. Clara has — roses; because — — — — —.

John had 9 violets. He gave $\frac{1}{3}$ of them to Helen. Helen has — violets; because — — — — —.

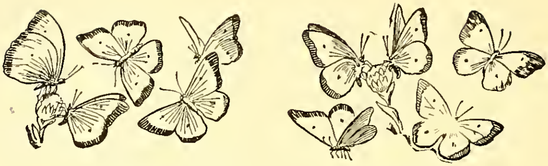
Nell had 9 pinks. She gave $\frac{2}{3}$ of them to John. John has — pinks; because — — — — —.

May has 3 roses. John has 3 times as many roses. John has — roses; because — — — — —.

One rose costs 1 cent. Nine roses cost — cents; because — — — — —.

Ruth has found 4 violets in the woods and 5 daisies in the field. Ruth has found — flowers; because — — — — —.

Clara has gathered 9 roses. One-third of them are red roses. Clara has gathered — red roses; because — — — — —.



10 = Ten ten = X

Ten ten

9 + ? = 10
4 + ? = 10
7 + ? = 10
1 + ? = 10
6 + ? = 10
8 + ? = 10
3 + ? = 10
10 + ? = 10
2 + ? = 10
5 + ? = 10

10 − 1 = ?
10 − 4 = ?
10 − 7 = ?
10 − 6 = ?
10 − 8 = ?
10 − 2 = ?
10 − 3 = ?
10 − 5 = ?
10 − 9 = ?
10 − 10 = ?

10 − ? = 3
10 − ? = 9
10 − ? = 10
10 − ? = 1
10 − ? = 2
10 − ? = 5
10 − ? = 6
10 − ? = 4
10 − ? = 7
10 − ? = 8

A butterfly sipped the honey from six lilies and four pinks. The butterfly sipped the honey from — flowers.

9 squares + 1 square = ? squares.
4 triangles + ? triangles = 10 triangles.
5 cubes + ? cubes = 10 cubes.
7 spheres + ? spheres = 10 spheres.
8 cylinders + ? cylinders = 10 cylinders.
3 cubes + ? cubes = 10 cubes.
1 circle + ? circles = 10 circles.
2 squares + ? squares = 10 squares.
6 cubes + ? cubes = 10 cubes.

? violets + 6 violets = 10 violets.
? roses + 2 roses = 10 roses.
? pansies + 5 pansies = 10 pansies.
? daisies + 4 daisies = 10 daisies.
? leaves + 1 leaf = 10 leaves.
? roses + 3 roses = 10 roses.
? pansies + 7 pansies = 10 pansies.
? violets + 8 violets = 10 violets.
1 daisy + ? daisies = 10 daisies.

$$\begin{array}{r} 7 \text{ leaves} \\ ? \text{ leaves} \\ \hline 10 \text{ leaves} \end{array} \qquad \begin{array}{r} 4 \text{ pansies} \\ ? \text{ pansies} \\ \hline 10 \text{ pansies} \end{array} \qquad \begin{array}{r} 2 \text{ violets} \\ ? \text{ violets} \\ \hline 10 \text{ violets} \end{array}$$

10 apples — 1 apple = ? apples.
10 cherries — 5 cherries = ? cherries.
10 pears — 4 pears = ? pears.
10 oranges — 7 oranges = ? oranges.
10 lemons — 2 lemons = ? lemons.
10 peaches — 6 peaches = ? peaches.
10 grapes — 3 grapes = ? grapes.
10 nuts — 8 nuts = ? nuts.
10 cherries — ? cherries = 1 cherry.

10 tents — 1 tent = ? tents.
10 flags — ? flags = 2 flags.
10 drums — ? drums = 5 drums.
10 kites — ? kites = 7 kites.
10 balls — ? balls = 1 ball.
10 tops — ? tops = 4 tops.
10 books — ? books = 8 books.
10 fans — ? fans = 3 fans.
10 drums — ? drums = 6 drums.

10 grapes
— 2 grapes
? grapes

10 cherries
— 4 cherries
? cherries

10 pears
— 7 pears
? pears

There are — 5's in ten.

There are — 5's in ten.

There are — 4's and — more in ten.

There are — 4's and — more in ten.

There are — 3's and — more in ten.

There are — 3's and — more in ten.

There are — 2's in ten.

There are — 2's in ten.

There is one 6 and — more in ten.

There is one 6 and — more in ten.

There is one 8 and — more in ten.

There is one 8 and — more in ten.

There is one 9 and — more in ten.

There is one 9 and — more in ten.

There are — 1's in ten.

There are — 1's in ten.

Ten dollars are — more than seven dollars.

Ten dollars are — more than nine dollars.

Ten dollars are — more than five dollars.

Ten dollars are — more than two dollars.

Ten dollars are — more than one dollar.

Ten dollars are — more than four dollars.

Ten dollars are — more than three dollars.

Ten dollars are — more than eight dollars.

Ten dollars are — more than six dollars.

Ten is — more than nine.
Ten is — more than six.
Ten is — more than one.
Ten is — more than five.
Ten is — more than seven.
Ten is — more than two.
Ten is — more than four.
Ten is — more than three.
Ten is — more than eight.
Ten is — more than naught.

Nine is — less than ten.
Seven is — less than ten.
Four is — less than ten.
Two is — less than ten.
One is — less than ten.
Three is — less than ten.
Five is — less than ten.
Six is — less than ten.
Eight is — less than ten.
Naught is — less than ten.

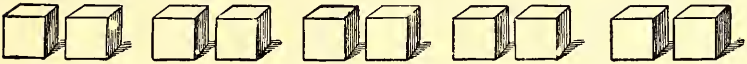
Helen has ten flowers.

Dorothy has five roses.
Mary has one lily.
Doris has three pansies.
Ruth has seven violets.
Agnes has nine daisies.

Helen has — flowers more than Dorothy.
Helen has — flowers more than Ruth.
Helen has — flowers more than Doris.
Helen has — flowers more than Mary.
Helen has — flower more than Agnes.

Agnes has — flower less than Helen.
Dorothy has — flowers less than Helen.
Ruth has — flowers less than Helen.
Mary has — flowers less than Helen.

Dorothy and Mary have — flowers.
Doris and Ruth have — flowers.
Dorothy and Doris have — flowers.
Mary and Agnes have — flowers.



One-half of 10 cubes is ? cubes.

$\frac{1}{2}$ of 10 cubes = ? cubes.

Two-halves of 10 cubes are ? cubes.

$\frac{2}{2}$ of 10 cubes = ? cubes.

One-fifth of 10 cubes is ? cubes.

$\frac{1}{5}$ of 10 cubes = ? cubes.

Three-fifths of 10 cubes are ? cubes.

$\frac{3}{5}$ of 10 cubes = ? cubes.

Two-fifths of 10 cubes are ? cubes.

$\frac{2}{5}$ of 10 cubes = ? cubes.

? is $\frac{1}{5}$ of 10.
? is $\frac{5}{5}$ of 10.

? is $\frac{2}{5}$ of 10.
? is $\frac{4}{5}$ of 10.

? is $\frac{1}{2}$ of 10.
? is $\frac{2}{2}$ of 10.

One-tenth of ten circles is — circle.

$\frac{1}{10}$ of 10 circles = — circle.

Five-tenths of ten circles are — circles.

$\frac{5}{10}$ of 10 circles = — circles.

Two-tenths of ten circles are — circles.

$\frac{2}{10}$ of 10 circles = — circles.

Four-tenths of ten circles are — circles.

$\frac{4}{10}$ of 10 circles = — circles.

Six-tenths of ten circles are — circles.

$\frac{6}{10}$ of 10 circles = — circles.

Ten-tenths of ten circles are — circles.

$\frac{10}{10}$ of 10 circles = — circles.

Three-tenths of ten circles are — circles.

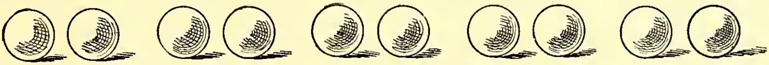
$\frac{3}{10}$ of 10 circles = — circles.

Seven-tenths of 10 circles are — circles.

$\frac{7}{10}$ of 10 circles = — circles.

Eight-tenths of 10 circles are — circles.

$\frac{8}{10}$ of 10 circles = — circles.



5 cylinders $\times\ ? = 10$ cylinders.
2 spheres $\times\ ? = 10$ spheres.

$5 \times ? = 10$
$1 \times ? = 10$

$? \times 5 = 10$
$? \times 10 = 10$

$\frac{1}{2}$ of 10 cylinders $= ?$ cylinders.
$\frac{1}{5}$ of 10 spheres $= ?$ spheres.

$10 \div 2 = ?$
$10 \div 5 = ?$
$10 \div 10 = ?$

$\frac{1}{5}$ of $10 = ?$
$\frac{1}{2}$ of $10 = ?$
$\frac{1}{10}$ of $10 = ?$

10 cylinders $\div\ 2 = ?$ cylinders.
10 spheres $\div\ 5 = ?$ spheres.
10 spheres $\div\ 1 = ?$ spheres.
10 spheres $\div\ ? = 1$ sphere.

John had $5 and earned $5. John has —; because — — — — —.

Clara had $10 and spent $6. Clara has —; because — — — — —.

Helen had $10. She spent $\frac{1}{2}$ of her money. Helen spent —; because — — — — —.

Nell has $2 and May has 5 times as much money. May has —; because — — — — —.

Ned had $10. He spent $\frac{1}{5}$ of his money. Ned spent —; because — — — — —.

Tom had $10. He spent $\frac{3}{5}$ of his money. Tom spent —; because — — — — —.

Mary bought 5 books this morning. She paid $2 for each book. Mary paid — for her books; because — — — — —.

Harry paid $10 for a tent. He sold the tent for $8. Harry lost —; because — — — — —.

REVIEW.

2 and 1, 4, 2, 6, 5.
5 and 2, 5, 4, 0, 1.
1 and 9, 6, 8, 7, 4.
4 and 2, 5, 6, 3, 1.
3 and 7, 5, 2, 0, 3.

8 less 1, 6, 7, 5, 4.
10 less 5, 1, 4, 7, 6.
9 less 3, 9, 7, 2, 4.
6 less 5, 0, 3, 1, 4.
7 less 7, 2, 5, 4, 3

½ of 2, 4, 6, 8, 10.
⅓ of 9, 3, 6, 1.

¼ of 4, 8, 1.
⅕ of 1, 10, 5.

2 leaves × 2, 3, 5.
3 daisies × 2, 1, 3.

10 leaves ÷ 2, 5, 1.
8 oranges ÷ 1, 4, 2.

One pansy has — petals. Two pansies have — petals. One pansy has — stem. Four pansies have — stems.

One triangle has — corners. Two triangles have — corners. Three triangles have — corners.

One square has — edges. Two squares have — edges. One square has — corners. Two squares have — corners.

1 = One	one = I
One	*one*
2 = Two	two = II
Two	*two*
3 = Three	three = III
Three	*three*
4 = Four	four = IV
Four	*four*
5 = Five	five = V
Five	*five*
6 = Six	six = VI
Six	*six*
7 = Seven	seven = VII
Seven	*seven*
8 = Eight	eight = VIII
Eight	*eight*
9 = Nine	nine = IX
Nine	*nine*
10 = Ten	ten = X
Ten	*ten*

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Our Flag.

This is the flag of — country. The staff of this flag is made of — and it is — inches long. Our flag is made of — colors. They are —, — and —. The red says to me, "Be brave." The white says, "Be pure." The blue says, "Be true."

There are — red stripes and — white stripes. I will count the stars in our flag. Will you tell me why there are so many stars and only — stripes?

— true Americans love our flag.

Note. — The pupil should study a flag in his own hand.

$11 =$ Eleven   eleven $=$ XI

Eleven eleven

$10+?=11$
$4+?=11$
$2+?=11$
$7+?=11$
$9+?=11$
$6+?=11$
$1+?=11$
$3+?=11$
$5+?=11$
$8+?=11$

$?+2=11$
$?+1=11$
$?+3=11$
$?+4=11$
$?+10=11$
$?+5=11$
$?+9=11$
$?+6=11$
$?+8=11$
$?+7=11$

$11-1=?$
$11-7=?$
$11-2=?$
$11-8=?$
$11-3=?$
$11-9=?$
$11-4=?$
$11-5=?$
$11-10=?$
$11-6=?$

$11-?=1$
$11-?=7$
$11-?=2$
$11-?=8$
$11-?=3$
$11-?=9$
$11-?=4$
$11-?=5$
$11-?=6$
$11-?=10$

A bee gathered honey from six red clover blossoms and from five white clover blossoms. The bee gathered honey from — blossoms.

Mary gathered eleven yellow and red autumn leaves. Three leaves were yellow. — leaves were red.

$11 \div 1 = ?$
$11 \div 11 = ?$
$\frac{1}{11}$ of $11 = ?$
$\frac{2}{11}$ of $11 = ?$

$1 \times ? = 11$
$11 \times ? = 11$
$11 \div ? = 1$
$11 \div ? = 11$

$(5 \times 2) + ? = 11$
$(3 \times 3) + ? = 11$
$(4 \times 2) + ? = 11$
$(2 \times 5) + ? = 11$

Two 5's + ? = 11
Two 3's + ? = 11
Two 4's + ? = 11
Three 3's + ? = 11

There are — 5's and ? more in 11.
There are — 3's and ? more in 11.
There are — 4's and ? more in 11.

Nell found eleven shells in the sand. Four of them were pink. The others were white. — shells were white.

John had eleven pebbles in his pocket. He threw nine pebbles into the lake. He has — pebbles in his pocket.

Eleven is —— more than ten.
Eleven is —— more than six.
Eleven is —— more than eight.
Eleven is —— more than four.
Eleven is —— more than nine.
Eleven is —— more than five.
Eleven is —— more than two.
Eleven is —— more than one.
Eleven is —— more than three.
Eleven is —— more than seven.

10 is ? less than 11.
2 is ? less than 11.
4 is ? less than 11.
1 is ? less than 11.
9 is ? less than 11.
3 is ? less than 11.
5 is ? less than 11.
6 is ? less than 11.
7 is ? less than 11.
8 is ? less than 11.
0 is ? less than 11.

12 = Twelve twelve = XII

Twelve twelve

$11 + ? = 12$
$6 + ? = 12$
$10 + ? = 12$
$9 + ? = 12$
$1 + ? = 12$
$0 + ? = 12$
$2 + ? = 12$
$4 + ? = 12$
$5 + ? = 12$
$3 + ? = 12$
$7 + ? = 12$
$8 + ? = 12$
$12 + ? = 12$

$? + 0 = 12$
$? + 7 = 12$
$? + 1 = 12$
$? + 8 = 12$
$? + 2 = 12$
$? + 9 = 12$
$? + 3 = 12$
$? + 10 = 12$
$? + 4 = 12$
$? + 11 = 12$
$? + 5 = 12$
$? + 12 = 12$
$? + 6 = 12$

$12 - 6 = ?$
$12 - 8 = ?$
$12 - 1 = ?$
$12 - 5 = ?$
$12 - 2 = ?$
$12 - 7 = ?$
$12 - 3 = ?$
$12 - 9 = ?$
$12 - 0 = ?$
$12 - 10 = ?$
$12 - 4 = ?$
$12 - 11 = ?$
$12 - 12 = ?$

$12 - ? = 1$
$12 - ? = 3$
$12 - ? = 5$
$12 - ? = 7$
$12 - ? = 9$
$12 - ? = 11$
$12 - ? = 0$
$12 - ? = 12$
$12 - ? = 10$
$12 - ? = 8$
$12 - ? = 6$
$12 - ? = 4$
$12 - ? = 2$

My mother bought twelve eggs this morning. She said, "I have one — eggs."

Helen gave Nell one-half dozen roses last night. Nell has — roses.

2 leaves × ? = 12 leaves.
6 buds × ? = 12 buds.
1 blossom × ? = 12 blossoms.
3 twigs × ? = 12 twigs.
4 stems × ? = 12 stems.

12 seeds ÷ 2 = ?
12 flowers ÷ 2 = ?
12 petals ÷ 6 = ?
12 roots ÷ 12 = ?
12 plants ÷ 4 = ?

12 is —— more than 10.
12 is —— more than 6.
12 is —— more than 11.
12 is —— more than 5.
12 is —— more than 1.
12 is —— more than 8.

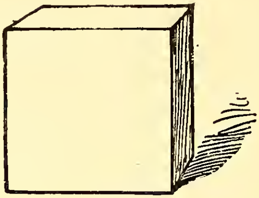
0 is ? less than 12.
2 is ? less than 12.
4 is ? less than 12.
3 is ? less than 12.
7 is ? less than 12.
9 is ? less than 12.

$\frac{1}{3}$ of 12 peanuts = ?
$\frac{2}{3}$ of 12 peanuts = ?
$\frac{1}{4}$ of 12 walnuts = ?
$\frac{3}{4}$ of 12 walnuts = ?

$\frac{1}{6}$ of 12 chestnuts = ?
$\frac{4}{6}$ of 12 chestnuts = ?
$\frac{1}{12}$ of 12 chestnuts = ?
$\frac{12}{12}$ of 12 chestnuts = ?

Two 5's and ? are 12.
Three 3's and ? are 12.
One 8 and ? are 12.
Eleven 1's and ? are 12.
Six 2's and ? are 12.

12 less ($\frac{1}{2}$ of 10) is ?
12 less (2 × 4) is ?
12 less ($\frac{1}{3}$ of 9) is ?
12 less (5 × 2) is ?
12 less ($\frac{1}{12}$ of 12) is ?



A Cube.

This cube is made of —. It has — corners. It has — edges. It has — faces.

Each face of the cube is a perfect —. Each face has — corners. Each face has — edges.

The faces of the cube are —. The edges of the cube are —. Each edge is — — long. A string — inches long will reach around this cube.

A cube will not — like a ball.

Note. — The pupil should examine a cube in his own hands and make his own discoveries.

13 = Thirteen thirteen = XIII

Thirteen thirteen

$12 + ? = 13$
$10 + ? = 13$
$11 + ? = 13$
$6 + ? = 13$
$8 + ? = 13$
$1 + ? = 13$
$3 + ? = 13$
$5 + ? = 13$
$2 + ? = 13$
$4 + ? = 13$
$7 + ? = 13$
$9 + ? = 13$

$? + 1 = 13$
$? + 9 = 13$
$? + 2 = 13$
$? + 10 = 13$
$? + 3 = 13$
$? + 11 = 13$
$? + 4 = 13$
$? + 12 = 13$
$? + 5 = 13$
$? + 6 = 13$
$? + 7 = 13$
$? + 8 = 13$

$13 - 10 = ?$
$13 - 1 = ?$
$13 - 7 = ?$
$13 - 2 = ?$
$13 - 8 = ?$
$13 - 9 = ?$
$13 - 3 = ?$
$13 - 12 = ?$
$13 - 4 = ?$
$13 - 11 = ?$
$13 - 5 = ?$
$13 - 6 = ?$

$13 - ? = 2$
$13 - ? = 8$
$13 - ? = 3$
$13 - ? = 9$
$13 - ? = 4$
$13 - ? = 10$
$13 - ? = 5$
$13 - ? = 11$
$13 - ? = 6$
$13 - ? = 12$
$13 - ? = 7$
$13 - ? = 1$

May cut ten triangles from blue paper and three triangles from green paper. May cut — triangles.

Grace cut thirteen circles from red and yellow papers. Seven circles are red. — circles are yellow.

Thirteen is —— more than ten.
Thirteen is —— more than twelve.
Thirteen is —— more than nine.
Thirteen is —— more than one.
Thirteen is —— more than five.
Thirteen is —— more than eleven.

Two is —— less than thirteen.
Six is —— less than thirteen.
Eight is —— less than thirteen.
Four is —— less than thirteen.
Three is —— less than thirteen.
Seven is —— less than thirteen.

$13 \div 1 = ?$ $1 \times ? = 13$ $\frac{1}{13}$ of $13 = ?$ $?$ is $\frac{1}{13}$ of 13
$13 \div 13 = ?$ $13 \times ? = 13$ $\frac{4}{13}$ of $13 = ?$ $?$ is $\frac{13}{13}$ of 13

Two 6's $+ ? = 13$.
Two 5's $+ ? = 13$.
Three 4's $+ ? = 13$.
Three 3's $+ ? = 13$.
Four 2's $+ ? = 13$.
Four 3's $+ ? = 13$.

$(5 \times 2) + ? = 13$.
$(4 \times 3) + ? = 13$.
$(2 \times 2) + ? = 13$.
$(3 \times 4) + ? = 13$.
$(3 \times 3) + ? = 13$.
$(6 \times 2) + ? = 13$.

$14 =$ Fourteen fourteen $=$ XIV

Fourteen fourteen

$13 + ? = 14$
$10 + ? = 14$
$1 + ? = 14$
$12 + ? = 14$
$2 + ? = 14$
$14 + ? = 14$
$3 + ? = 14$
$11 + ? = 14$
$4 + ? = 14$
$8 + ? = 14$
$5 + ? = 14$
$6 + ? = 14$
$7 + ? = 14$
$9 + ? = 14$

$? + 0 = 14$
$? + 8 = 14$
$? + 1 = 14$
$? + 9 = 14$
$? + 2 = 14$
$? + 10 = 14$
$? + 3 = 14$
$? + 11 = 14$
$? + 4 = 14$
$? + 12 = 14$
$? + 5 = 14$
$? + 13 = 14$
$? + 6 = 14$
$? + 7 = 14$

$14 - 2 = ?$
$14 - 10 = ?$
$14 - 3 = ?$
$14 - 11 = ?$
$14 - 4 = ?$
$14 - 12 = ?$
$14 - 5 = ?$
$14 - 13 = ?$
$14 - 6 = ?$
$14 - 14 = ?$
$14 - 7 = ?$
$14 - 8 = ?$
$14 - 1 = ?$
$14 - 9 = ?$

$14 - ? = 10$
$14 - ? = 8$
$14 - ? = 1$
$14 - ? = 9$
$14 - ? = 2$
$14 - ? = 14$
$14 - ? = 3$
$14 - ? = 13$
$14 - ? = 4$
$14 - ? = 12$
$14 - ? = 5$
$14 - ? = 11$
$14 - ? = 6$
$14 - ? = 7$

Fourteen is ten and —.
Fourteen is seven and —.
Thirteen is fourteen less —.
Eight is fourteen less —.

14 is ? more than 10.
14 is ? more than 7.
14 is ? more than 12.
14 is ? more than 8.
14 is ? more than 3.

13 is ? less than 14.
2 is ? less than 14.
9 is ? less than 14.
11 is ? less than 14.
4 is ? less than 14.

Two 6's + ? = 14.
Two 5's + ? = 14.
Three 4's + ? = 14.
Two 7's + ? = 14.
Five 2's + ? = 14.

$(5 \times 2) + ? = 14.$
$(9 \times 1) + ? = 14.$
$(3 \times 3) + ? = 14.$
$(4 \times 2) + ? = 14.$
$(2 \times 7) + ? = 14.$

One-half of fourteen is —.
One-seventh of fourteen is —.
One-fourteenth of fourteen is —.

$\frac{1}{2}$ of 14 = ?
$\frac{1}{7}$ of 14 = ?
$\frac{1}{14}$ of 14 = ?

? is $\frac{1}{7}$ of 14.
? is $\frac{1}{14}$ of 14.
? is $\frac{1}{2}$ of 14.

— is two-sevenths of fourteen.
— is two-fourteenths of fourteen.
— is two-halves of fourteen.

Four and — 5's are fourteen.
Two and — 4's are fourteen.
Five and — 3's are fourteen.

15 = Fifteen fifteen = XV

Fifteen fifteen

14 + ? = 15
7 + ? = 15
1 + ? = 15
8 + ? = 15
2 + ? = 15
9 + ? = 15
3 + ? = 15
10 + ? = 15
4 + ? = 15
11 + ? = 15
5 + ? = 15
12 + ? = 15
6 + ? = 15
0 + ? = 15
15 + ? = 15
13 + ? = 15

? + 15 = 15
? + 14 = 15
? + 0 = 15
? + 1 = 15
? + 13 = 15
? + 2 = 15
? + 12 = 15
? + 3 = 15
? + 11 = 15
? + 4 = 15
? + 10 = 15
? + 5 = 15
? + 9 = 15
? + 6 = 15
? + 8 = 15
? + 7 = 15

15 – 10 = ?
15 – 6 = ?
15 – 14 = ?
15 – 5 = ?
15 – 7 = ?
15 – 4 = ?
15 – 8 = ?
15 – 3 = ?
15 – 9 = ?
15 – 2 = ?
15 – 11 = ?
15 – 1 = ?
15 – 12 = ?
15 – 0 = ?
15 – 13 = ?
15 – 15 = ?

15 – ? = 0
15 – ? = 9
15 – ? = 1
15 – ? = 10
15 – ? = 3
15 – ? = 11
15 – ? = 4
15 – ? = 12
15 – ? = 5
15 – ? = 13
15 – ? = 6
15 – ? = 14
15 – ? = 7
15 – ? = 15
15 – ? = 8
15 – ? = 2

Fifteen is fourteen and —.
Fifteen is ten and —.
Fifteen is thirteen and —.

Fifteen fish are —— more than ten fish.
Fifteen birds are —— more than nine birds.
Fifteen lambs are —— more than six lambs.
Fifteen rabbits are —— more than two rabbits.
Fifteen butterflies are —— more than one butterfly.

Twelve buds are —— less than fifteen buds.
Three leaves are —— less than fifteen leaves.
Four seeds are —— less than fifteen seeds.
Five stems are —— less than fifteen stems.
Seven twigs are —— less than fifteen twigs.

$\frac{1}{3}$ of $15 = ?$
$\frac{2}{3}$ of $15 = ?$
$\frac{3}{3}$ of $15 = ?$

$\frac{1}{5}$ of $15 = ?$
$\frac{2}{5}$ of $15 = ?$
$\frac{3}{5}$ of $15 = ?$

$\frac{1}{15}$ of $15 = ?$
$\frac{2}{15}$ of $15 = ?$
$\frac{3}{15}$ of $15 = ?$

$15 \div 3 = ?$
$15 \div 5 = ?$
$15 \div 15 = ?$

3 grapes $\times ? =$ 15 grapes.
1 pear $\times ? =$ 15 pears.

5 peaches $\times ? =$ 15 peaches.
15 cherries $\times ? =$ 15 cherries.

Harry has cut fifteen colored circles. One-third of them are red. Harry has —— red circles.

Fred has cut fifteen colored squares. One-fifth of them are violet. Fred has —— violet squares.

REVIEW.

Fifteen is —— more than one, ten, six, two, nine.
Five is —— less than ten, eight, twelve, six, eleven.

$\frac{1}{2}$ of 10 leaves, 6 dollars, 14 books, 12 cubes, 8 seeds.
$\frac{1}{3}$ of 12 triangles, 9 cylinders, 6 squares, 15 spheres.

2 birds, 4 nests, 3 eggs, 5 fish, 1 lamb × 3.
7 grapes, 5 oranges, 6 pears, 4 cherries, 3 lemons × 2.

4 pansies, 12 daisies, 8 roses, 10 violets, 6 lilies ÷ 2.
15 buds, 9 leaves, 12 stems, 6 seeds, 3 flowers ÷ 3.

One-half of four and one-half of six is ——.
One-third of nine and one-third of three is ——.
One-half of twelve and one-third of twelve is ——.
One-third of six and one-fourth of eight is ——.
One-third of fifteen and one-half of ten is ——.

$(\frac{1}{2}\text{ of }10) + (\frac{1}{2}\text{ of }12) = ?$
$(\frac{1}{3}\text{ of }15) + (\frac{1}{3}\text{ of }9) = ?$
$(\frac{1}{4}\text{ of }8) + (\frac{1}{4}\text{ of }12) = ?$
$(\frac{1}{5}\text{ of }10) + (\frac{1}{5}\text{ of }15) = ?$

$(\frac{1}{2}\text{ of }14) - (\frac{1}{2}\text{ of }12) = ?$
$(\frac{1}{3}\text{ of }15) - (\frac{1}{3}\text{ of }9) = ?$
$(\frac{1}{4}\text{ of }12) - (\frac{1}{4}\text{ of }8) = ?$
$(\frac{1}{2}\text{ of }12) - (\frac{1}{2}\text{ of }4) = ?$

My School Desk.

My desk is made of — and —. It is a very pretty —. I keep my — and — in it.

I can count — pieces of iron in my desk. I can find — pieces of wood in it. I have counted — screws and — nails in it.

My desk stands on — legs. — screws fasten it to the floor. The legs are made of —.

The well for my ink is made of —. The lid over it is made of —.

My desk is — feet high. It is — inches long. It is — inches wide.

I will keep my desk — and —.

$16 =$ Sixteen sixteen $=$ XVI

Sixteen sixteen

$15 + ? = 16$
$10 + ? = 16$
$12 + ? = 16$
$11 + ? = 16$
$14 + ? = 16$
$1 + ? = 16$
$4 + ? = 16$
$7 + ? = 16$
$9 + ? = 16$
$2 + ? = 16$
$3 + ? = 16$
$5 + ? = 16$
$6 + ? = 16$
$8 + ? = 16$
$13 + ? = 16$

$? + 9 = 16$
$? + 1 = 16$
$? + 10 = 16$
$? + 2 = 16$
$? + 11 = 16$
$? + 3 = 16$
$? + 12 = 16$
$? + 4 = 16$
$? + 13 = 16$
$? + 5 = 16$
$? + 14 = 16$
$? + 6 = 16$
$? + 15 = 16$
$? + 7 = 16$
$? + 8 = 16$

$16 - 1 = ?$
$16 - 15 = ?$
$16 - 2 = ?$
$16 - 14 = ?$
$16 - 3 = ?$
$16 - 13 = ?$
$16 - 4 = ?$
$16 - 12 = ?$
$16 - 5 = ?$
$16 - 11 = ?$
$16 - 6 = ?$
$16 - 10 = ?$
$16 - 7 = ?$
$16 - 9 = ?$
$16 - 8 = ?$

$16 - ? = 1$
$16 - ? = 7$
$16 - ? = 2$
$16 - ? = 8$
$16 - ? = 3$
$16 - ? = 9$
$16 - ? = 4$
$16 - ? = 5$
$16 - ? = 10$
$16 - ? = 6$
$16 - ? = 11$
$16 - ? = 14$
$16 - ? = 12$
$16 - ? = 15$
$16 - ? = 13$

Eight and eight are —.

One-half of sixteen is —.

Four 4's are —.

One-fourth of sixteen is —.

16 daisies ÷ 2 = ? daisies. $\frac{1}{2}$ of 16 daisies = ? daisies.
16 pansies ÷ 4 = ? pansies. $\frac{1}{4}$ of 16 pansies = ? pansies.
16 roses ÷ 8 = ? roses. $\frac{1}{8}$ of 16 roses = ? roses.

$\frac{1}{2}$ of 16 = ?
$\frac{2}{2}$ of 16 = ?
$\frac{1}{4}$ of 16 = ?
$\frac{2}{4}$ of 16 = ?
$\frac{1}{8}$ of 16 = ?
$\frac{2}{8}$ of 16 = ?
$\frac{1}{16}$ of 16 = ?
$\frac{2}{16}$ of 16 = ?

2 trees × ? = 16 trees. — 2's are sixteen.
4 plants × ? = 16 plants. — 4's are sixteen.
8 vines × ? = 16 vines. — 8's are sixteen.
1 bush × ? = 16 bushes. — 1's are sixteen.

$2 \times ? = 16$
$4 \times ? = 16$
$1 \times ? = 16$
$8 \times ? = 16$
$16 \div 2 = ?$
$16 \div 4 = ?$
$16 \div 8 = ?$
$16 \div 16 = ?$

Two 7's and ? are 16.
Three 5's and ? are 16.
Four 4's and ? are 16.
Five 3's and ? are 16.
Two 6's and ? are 16.

16 is 1 and — 5's.
16 is 6 and — 10.
16 is 2 and — 7's.
16 is 4 and — 6's.
16 is 6 and — 2's.

$16 - (5 \times 3) = ?$
$16 - (6 \times 2) = ?$
$16 - (7 \times 2) = ?$
$16 - (4 \times 4) = ?$
$16 - (3 \times 3) = ?$
$16 - (8 \times 2) = ?$

15 is ? less than 16.
8 is ? less than 16.
10 is ? less than 16.
2 is ? less than 16.
13 is ? less than 16.
1 is ? less than 16.
11 is ? less than 16.
4 is ? less than 16.

16 is ? more than 10.
16 is ? more than 12.
16 is ? more than 9.
16 is ? more than 7.
16 is ? more than 5.
16 is ? more than 6.
16 is ? more than 14.
16 is ? more than 3.

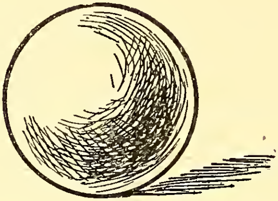
Ethel cut sixteen triangles from paper. One-half of them are blue. Ethel has — blue triangles.

Hazel cut sixteen circles from paper. One-fourth of them are yellow. Hazel has — yellow circles.

Alice cut sixteen squares from paper. One-eighth of them are black. Alice has — black squares.

Helen has painted sixteen flowers. Three-fourths of them are roses. Helen has painted — roses.

Clara has painted sixteen leaves. One-fourth of them are yellow. Clara has painted — yellow leaves.



A Sphere.

This sphere is made of —. It looks like a —.

It has — corners. It has — edges.

It has — face. The face of a sphere is — and —.

A sphere will — like a ball. A sphere will not — like a cube.

My — is like a sphere. A — is like a sphere. The earth is like a —.

We will make a sphere of —. It must be — and —.

Note.—The pupil must study a sphere in his own hands.

17 = Seventeen seventeen = XVII

Seventeen seventeen

16 + ? = 17
14 + ? = 17
10 + ? = 17
15 + ? = 17
11 + ? = 17
1 + ? = 17
6 + ? = 17
2 + ? = 17
7 + ? = 17
3 + ? = 17
8 + ? = 17
4 + ? = 17
9 + ? = 17
5 + ? = 17
12 + ? = 17
17 + ? = 17
13 + ? = 17
0 + ? = 17

? + 1 = 17
? + 3 = 17
? + 5 = 17
? + 2 = 17
? + 4 = 17
? + 8 = 17
? + 6 = 17
? + 10 = 17
? + 11 = 17
? + 7 = 17
? + 9 = 17
? + 12 = 17
? + 16 = 17
? + 13 = 17
? + 17 = 17
? + 14 = 17
? + 0 = 17
? + 15 = 17

17 – 4 = ?
17 – 6 = ?
17 – 3 = ?
17 – 7 = ?
17 – 2 = ?
17 – 0 = ?
17 – 1 = ?
17 – 8 = ?
17 – 5 = ?
17 – 9 = ?
17 – 17 = ?
17 – 10 = ?
17 – 14 = ?
17 – 11 = ?
17 – 15 = ?
17 – 12 = ?
17 – 16 = ?
17 – 13 = ?

17 – ? = 0
17 – ? = 6
17 – ? = 1
17 – ? = 7
17 – ? = 2
17 – ? = 8
17 – ? = 3
17 – ? = 9
17 – ? = 4
17 – ? = 10
17 – ? = 5
17 – ? = 11
17 – ? = 15
17 – ? = 12
17 – ? = 16
17 – ? = 13
17 – ? = 17
17 – ? = 14

17 flowers are —— more than 10 flowers.
17 leaves are —— more than 4 leaves.
17 buds are —— more than 15 buds.
17 blossoms are —— more than 12 blossoms.
17 plants are —— more than 9 plants.

1 is ? less than 17.
9 is ? less than 17.
2 is ? less than 17.
11 is ? less than 17.
3 is ? less than 17.
13 is ? less than 17.
4 is ? less than 17.

5 is ? less than 17.
10 is ? less than 17.
6 is ? less than 17.
12 is ? less than 17.
7 is ? less than 17.
14 is ? less than 17.
8 is ? less than 17.

Two 8's and ? are 17.
Two 7's and ? are 17.
Three 5's and ? are 17.
Four 4's and ? are 17.

17 is two 5's and ?
17 is two 6's and ?
17 is two 8's and ?
17 is two 7's and ?

$17-(4\times 4)=?$
$17-(2\times 5)=?$
$17-(2\times 8)=?$
$17-(5\times 3)=?$

$(2\times 7)+?=17$
$(8\times 2)+?=17$
$(3\times 4)+?=17$
$(5\times 2)+?=17$

$17-(\frac{1}{2}\text{ of }10)=?$
$17-(\frac{1}{2}\text{ of }16)=?$
$17-(\frac{1}{2}\text{ of }14)=?$
$17-(\frac{1}{2}\text{ of }12)=?$

18 = Eighteen eighteen = XVIII

Eighteen eighteen

$0 + ? = 18$
$5 + ? = 18$
$1 + ? = 18$
$6 + ? = 18$
$8 + ? = 18$
$2 + ? = 18$
$7 + ? = 18$
$9 + ? = 18$
$3 + ? = 18$
$10 + ? = 18$
$4 + ? = 18$
$11 + ? = 18$
$15 + ? = 18$
$12 + ? = 18$
$16 + ? = 18$
$13 + ? = 18$
$17 + ? = 18$
$14 + ? = 18$
$18 + ? = 18$

$? + 1 = 18$
$? + 6 = 18$
$? + 0 = 18$
$? + 2 = 18$
$? + 7 = 18$
$? + 3 = 18$
$? + 8 = 18$
$? + 10 = 18$
$? + 4 = 18$
$? + 9 = 18$
$? + 5 = 18$
$? + 11 = 18$
$? + 15 = 18$
$? + 12 = 18$
$? + 16 = 18$
$? + 13 = 18$
$? + 18 = 18$
$? + 14 = 18$
$? + 17 = 18$

$18 - 6 = ?$
$18 - 1 = ?$
$18 - 7 = ?$
$18 - 2 = ?$
$18 - 8 = ?$
$18 - 0 = ?$
$18 - 3 = ?$
$18 - 5 = ?$
$18 - 9 = ?$
$18 - 4 = ?$
$18 - 18 = ?$
$18 - 14 = ?$
$18 - 10 = ?$
$18 - 15 = ?$
$18 - 11 = ?$
$18 - 16 = ?$
$18 - 12 = ?$
$18 - 17 = ?$
$18 - 13 = ?$

$18 - ? = 0$
$18 - ? = 6$
$18 - ? = 1$
$18 - ? = 7$
$18 - ? = 2$
$18 - ? = 8$
$18 - ? = 3$
$18 - ? = 9$
$18 - ? = 4$
$18 - ? = 10$
$18 - ? = 5$
$18 - ? = 11$
$18 - ? = 12$
$18 - ? = 16$
$18 - ? = 13$
$18 - ? = 17$
$18 - ? = 14$
$18 - ? = 18$
$18 - ? = 15$

Eighteen shells are — more than ten shells.
Eighteen pebbles are — more than six pebbles.
Eighteen stones are — more than one stone.
Eighteen ships are — more than four ships.

18 is ? more than 10.
18 is ? more than 9.
18 is ? more than 12.
18 is ? more than 17.
18 is ? more than 5.
18 is ? more than 2.
18 is ? more than 8.
18 is ? more than 13.

1 is ? less than 18.
7 is ? less than 18.
5 is ? less than 18.
4 is ? less than 18.
6 is ? less than 18.
3 is ? less than 18.
11 is ? less than 18.
14 is ? less than 18.

— 9's are 18.
— 6's are 18.
— 2's are 18.
— 3's are 18.
— 1's are 18.

— is one-half of eighteen.
— is one-third of eighteen.
— is one-ninth of eighteen.
— is one-sixth of eighteen.
— is one-eighteenth of eighteen.

$18 \div 2 = ?$
$9 \times ? = 18$
$\frac{1}{2}$ of $18 = ?$

$18 \div 3 = ?$
$6 \times ? = 18$
$\frac{1}{3}$ of $18 = ?$

$18 \div 6 = ?$
$3 \times ? = 18$
$\frac{1}{6}$ of $18 = ?$

$18 \div 9 = ?$
$2 \times ? = 18$
$\frac{1}{9}$ of $18 = ?$

$\frac{1}{2}$ of $18 = ?$
$\frac{2}{2}$ of $18 = ?$
$\frac{1}{3}$ of $18 = ?$
$\frac{2}{3}$ of $18 = ?$
$\frac{1}{6}$ of $18 = ?$
$\frac{2}{6}$ of $18 = ?$
$\frac{1}{9}$ of $18 = ?$
$\frac{2}{9}$ of $18 = ?$

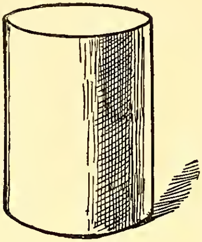
$18 - (4 \times 4) = ?$
$18 - (3 \times 5) = ?$
$18 - (2 \times 7) = ?$
$(8 \times 2) + ? = 18.$
$(6 \times 3) + ? = 18.$
$(4 \times 3) + ? = 18.$
$18 - (\frac{1}{2}$ of $18) = ?$
$18 - (\frac{1}{3}$ of $18) = ?$
$18 - (\frac{1}{6}$ of $18) = ?$

Harry has drawn eighteen leaves. One-half of them are maple leaves. Harry has drawn — maple leaves.

Hazel has made eighteen dishes of clay. One-third of them are cups. Hazel has made — cups.

Santa Claus brought Fred eighteen toys. One-sixth of them are balls. Fred has — balls.

Grace found eighteen flowers in the woods. One-ninth of them are violets. Grace has — violets.



A Cylinder.

This cylinder is made of —. It has — flat faces. It has — curved face. Each flat face is a perfect —.

A cylinder has — curved edges. Each curved edge is a perfect —.

A cylinder will — like a sphere. A cylinder will — like a cube.

This — is like a cylinder. My — is like a cylinder.

Let us make a cylinder of —. We will make it — inches long.

19 = Nineteen nineteen = XIX

Nineteen nineteen

18 + ? = 19
10 + ? = 19
4 + ? = 19
12 + ? = 19
13 + ? = 19
6 + ? = 19
1 + ? = 19
3 + ? = 19
17 + ? = 19
5 + ? = 19
2 + ? = 19
7 + ? = 19
8 + ? = 19
11 + ? = 19
9 + ? = 19
14 + ? = 19
16 + ? = 19
15 + ? = 19
19 + ? = 19
0 + ? = 19

? + 1 = 19
? + 8 = 19
? + 2 = 19
? + 9 = 19
? + 3 = 19
? + 10 = 19
? + 4 = 19
? + 11 = 19
? + 5 = 19
? + 12 = 19
? + 6 = 19
? + 13 = 19
? + 7 = 19
? + 14 = 19
? + 15 = 19
? + 18 = 19
? + 16 = 19
? + 19 = 19
? + 0 = 19
? + 17 = 19

19 − 10 = ?
19 − 1 = ?
19 − 8 = ?
19 − 12 = ?
19 − 13 = ?
19 − 2 = ?
19 − 6 = ?
19 − 17 = ?
19 − 18 = ?
19 − 14 = ?
19 − 3 = ?
19 − 15 = ?
19 − 19 = ?
19 − 4 = ?
19 − 5 = ?
19 − 7 = ?
19 − 9 = ?
19 − 11 = ?
19 − 16 = ?
19 − 0 = ?

19 − ? = 1
19 − ? = 18
19 − ? = 10
19 − ? = 4
19 − ? = 12
19 − ? = 13
19 − ? = 6
19 − ? = 15
19 − ? = 3
19 − ? = 17
19 − ? = 5
19 − ? = 2
19 − ? = 7
19 − ? = 8
19 − ? = 11
19 − ? = 9
19 − ? = 14
19 − ? = 16
19 − ? = 0
19 − ? = 19

$19 \div 1 = ?$

$19 \div 19 = ?$

$1 \times ? = 19$

$19 \times ? = 19$

$\frac{1}{19}$ of $19 = ?$

$\frac{2}{19}$ of $19 = ?$

? is $\frac{1}{19}$ of 19.

? is $\frac{19}{19}$ of 19.

19 circles are —— more than 10 circles.

19 squares are —— more than 1 square.

19 triangles are —— more than 15 triangles.

12 spheres are —— less than 19 spheres.

13 cylinders are —— less than 19 cylinders.

17 cubes are —— less than 19 cubes.

19 is ? more than 10.

19 is ? more than 18.

19 is ? more than 5.

19 is ? more than 13.

19 is ? more than 1.

14 is ? less than 19.

11 is ? less than 19.

15 is ? less than 19.

9 is ? less than 19.

7 is ? less than 19.

Nineteen is —— more than two.

Nineteen is —— more than six.

Nineteen is —— more than eight.

Eleven is —— less than nineteen.

Sixteen is —— less than nineteen.

Thirteen is —— less than nineteen.

Two 9's + ? are nineteen.
Four 4's + ? are nineteen.
Three 5's + ? are nineteen.
Two 8's + ? are nineteen.
Two 7's + ? are nineteen.

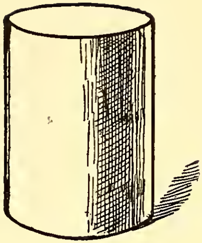
$(6 \times 3) + ? = 19.$
$(7 \times 2) + ? = 19.$
$(3 \times 3) + ? = 19.$
$(5 \times 2) + ? = 19.$
$(4 \times 4) + ? = 19.$

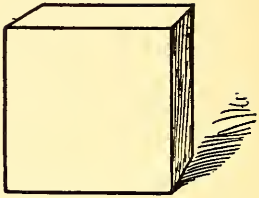
In nineteen there are — 9's and ? more.
In nineteen there are — 5's and ? more.
In nineteen there are — 6's and ? more.
In nineteen there are — 7's and ? more.
In nineteen there are — 8's and ? more.
In nineteen there are — 4's and ? more.

Mr. Smith spent nineteen dollars for a coat and hat. The coat cost fifteen dollars. Mr. Smith paid — dollars for the hat.

Nineteen children are playing in the woods. Ten of them are boys. — girls are in the woods.

Harry is eighteen years old. Fred is one year older. Fred is — years old.





flat face curved face straight edge curved edge

flat face *straight edge*

curved face *curved edge*

One cube has —— corners.
Two cubes have —— corners.

One cube has —— straight edges.
Two cubes have —— straight edges.

One cube has —— flat faces.
Two cubes have —— flat faces.

One cylinder has —— curved edges.
Two cylinders have —— curved edges.

One cylinder has —— flat faces.
Three cylinders have —— flat faces.

One cylinder has —— curved face.
Two cylinders have —— curved faces.

20 = Twenty twenty = XX

Twenty twenty

19 + ? = 20
10 + ? = 20
6 + ? = 20
4 + ? = 20
1 + ? = 20
3 + ? = 20
18 + ? = 20
2 + ? = 20
5 + ? = 20
7 + ? = 20
9 + ? = 20
8 + ? = 20
11 + ? = 20
17 + ? = 20
14 + ? = 20
16 + ? = 20
12 + ? = 20
13 + ? = 20
15 + ? = 20
20 + ? = 20

? + 19 = 20
? + 10 = 20
? + 1 = 20
? + 5 = 20
? + 18 = 20
? + 9 = 20
? + 2 = 20
? + 6 = 20
? + 17 = 20
? + 8 = 20
? + 3 = 20
? + 7 = 20
? + 4 = 20
? + 11 = 20
? + 13 = 20
? + 12 = 20
? + 14 = 20
? + 16 = 20
? + 15 = 20
? + 20 = 20

20 – 19 = ?
20 – 10 = ?
20 – 1 = ?
20 – 5 = ?
20 – 18 = ?
20 – 9 = ?
20 – 2 = ?
20 – 6 = ?
20 – 17 = ?
20 – 8 = ?
20 – 3 = ?
20 – 7 = ?
20 – 4 = ?
20 – 11 = ?
20 – 13 = ?
20 – 12 = ?
20 – 14 = ?
20 – 16 = ?
20 – 15 = ?
20 – 20 = ?

20 – ? = 1
20 – ? = 6
20 – ? = 2
20 – ? = 7
20 – ? = 3
20 – ? = 8
20 – ? = 4
20 – ? = 9
20 – ? = 5
20 – ? = 10
20 – ? = 12
20 – ? = 14
20 – ? = 16
20 – ? = 18
20 – ? = 20
20 – ? = 19
20 – ? = 17
20 – ? = 15
20 – ? = 13
20 – ? = 11

One-half of twenty nuts is — nuts.
One-fourth of twenty twigs is — twigs.
One-fifth of twenty seeds is — seeds.
One-tenth of twenty leaves is — leaves.

$\frac{1}{2}$ of $20 = ?$ $\frac{1}{4}$ of $20 = ?$ $\frac{1}{5}$ of $20 = ?$ $\frac{1}{10}$ of $20 = ?$
$\frac{2}{2}$ of $20 = ?$ $\frac{2}{4}$ of $20 = ?$ $\frac{2}{5}$ of $20 = ?$ $\frac{2}{10}$ of $20 = ?$

$20 \div 2 = ?$ $10 \times ? = 20$ — 10's are twenty.
$20 \div 4 = ?$ $4 \times ? = 20$ — 4's are twenty.
$20 \div 5 = ?$ $5 \times ? = 20$ — 2's are twenty.
$20 \div 10 = ?$ $2 \times ? = 20$ — 5's are twenty.

Two 9's + ? = 20. Four 4's + ? = 20.
Three 6's + ? = 20. Six 3's + ? = 20.
Two 7's + ? = 20. Nine 2's + ? = 20.

Rollin planted twenty seeds in his garden. One-half of them are beans. Rollin planted — beans.

Hugh planted twenty trees in the yard. One-fifth of them are maple trees. Hugh planted — maple trees.

Twenty fans are — more than one fan.
Twenty flags are — more than five flags.
Twenty tops are — more than two tops.
Twenty tents are — more than six tents.
Twenty drums are — more than three drums.
Twenty leaves are — more than seven leaves.

Twenty pansies are — more than four pansies.
Twenty roses are — more than eight roses.
Twenty daisies are — more than thirteen daisies.
Twenty violets are — more than nine violets.
Twenty apples are — more than fourteen apples.
Twenty peaches are — more than ten peaches.

Twenty pears are — more than fifteen pears.
Twenty oranges are — more than eleven oranges.
Twenty lemons are — more than sixteen lemons.
Twenty grapes are — more than twelve grapes.
Twenty cherries are — more than seventeen cherries.
Twenty flowers are — more than nineteen flowers.
Twenty trees are — more than eighteen trees.

REVIEW.

Twenty is — more than ten, one, six, two, five.

Ten is — less than fifteen, eleven, twenty, sixteen.

There are — 4's in eight, twenty, sixteen, twelve, four.

There are — 3's in nine, twelve, six, three, fifteen.

$\frac{1}{2}$ of 10, 20, 8, 16, 14. $\frac{1}{4}$ of 16, 8, 12, 20, 4.

$\frac{1}{3}$ of 9, 6, 15, 3, 12. $\frac{1}{5}$ of 20, 5, 10, 15, 1.

Helen saw ten cherries on the tree this morning. She watched a robin eat one-half of them. The robin ate — cherries.

Rollin found fourteen violets in the woods and four daisies in the field. Rollin found — flowers.

There were twenty chestnuts on the tree last night. This morning one-fourth of them have fallen to the ground. There are — nuts on the ground.

There are six apple trees in the orchard. Hugh gathered two baskets of apples from each tree. Hugh gathered — baskets of apples.

Hugh has twenty dollars.

Rollin has ten dollars.
Frank has nineteen dollars.
Ralph has fifteen dollars.
John has five dollars.
Sidney has sixteen dollars.
Robert has one dollar.

Hugh has — dollars more than Rollin.
Hugh has — dollars more than John.
Hugh has — dollars more than Frank.
Hugh has — dollars more than Ralph.
Hugh has — dollars more than Sidney.

Robert has — dollars less than Hugh.
Rollin has — dollars less than Hugh
Sidney has — dollars less than Hugh.
Frank has — dollars less than Hugh.
Ralph has — dollars less than Hugh.

REVIEW.

6 violets
3 pansies
4 roses
? flowers

4 children
6 men
4 women
? ——

7 boys
3 girls
6 babies
? ——

4 churches
3 barns
5 houses
? ——

9 cups
9 saucers
2 plates
? ——

7 daisies
4 pansies
6 violets
? ——

9 women
2 men
5 children
? ——

9 babies
4 girls
6 boys
? ——

7 cows
2 horses
10 sheep
? ——

9 walnuts
2 peanuts
7 chestnuts
? ——

10 and 1 is 11.
X and I is XI.

10 and 2 is 12.
X and ? is XII.

10 and 3 is 13.
X and ? is XIII.

10 and 4 is 14.
X and ? is XIV.

10 and 5 is 15.
X and ? is XV.

10 and 6 is 16.
X and ? is XVI.

10 and 7 is 17.
X and ? is XVII.

10 and 8 is 18.
X and ? is XVIII.

10 and 9 is 19.
X and ? is XIX.

10 and 10 is 20.
X and ? is XX.

11 = Eleven   eleven = XI
12 = Twelve   twelve = XII
13 = Thirteen   thirteen = XIII
14 = Fourteen   fourteen = XIV
15 = Fifteen   fifteen = XV
16 = Sixteen   sixteen = XVI
17 = Seventeen   seventeen = XVII
18 = Eighteen   eighteen = XVIII
19 = Nineteen   nineteen = XIX
20 = Twenty   twenty = XX

violet.

violet

pansy.

pansy

rose.

rose

cherry.

cherry

apple.

apple

peach.

peach

One violet has — petals.
Three violets have — petals.

One pansy has — petals.
Three pansies have —petals.

One peach blossom has — petals.
Five peach blossoms have — petals.

One cherry blossom has — petals.
Two cherry blossoms have — petals.

One apple blossom has — petals.
Four apple blossoms have — petals.

One peach blossom has — petals.
Three peach blossoms have — petals.

One wild rose has — petals.
Two wild roses have — petals.

Money

One dollar is — cents.
One dime is — cents.
One quarter is — cents.
One half-dollar is — cents.
One nickel is — cents.

One dollar is — half-dollars.
One dollar is — quarters.
One dollar is — dimes.
One dollar is — cents.

One half-dollar is — cents.
One half-dollar is — dimes.
One half-dollar is — quarters.

One quarter is — cents.
One quarter is — nickels.
One dime is — nickels.

1 dollar + 1 cent = —— cents.
1 dollar + 1 dime = —— cents.
1 dollar + 1 quarter = —— cents.
1 dollar + 1 half-dollar = —— cents.
1 dollar + 1 nickel = —— cents.

1 half-dollar + 1 dime = —— cents.
1 half-dollar + 1 quarter = —— cents.
1 half-dollar + 1 nickel = —— cents.
1 half-dollar + 1 cent = —— cents.
1 half-dollar + 1 dollar = —— cents.

1 quarter + 1 cent = —— cents.
1 quarter + 1 dime = —— cents.
1 quarter + 1 half-dollar = —— cents.
1 quarter + 1 nickel = —— cents.
1 quarter + 1 dollar = —— cents.

1 dime + 1 cent = —— cents.
1 dime + 1 nickel = —— cents.
1 dime + 1 quarter = —— cents.
1 dime + 1 dollar = —— cents.
1 dime + 1 half-dollar = —— cents.

1 half-dollar is —— cents less than 1 dollar.
1 quarter is —— cents less than 1 dollar.
1 dime is —— cents less than 1 dollar.
1 cent is —— cents less than 1 dollar.

1 quarter is —— cents less than 1 half-dollar.
1 dime is —— cents less than 1 half-dollar.
1 cent is —— cents less than 1 half-dollar.
1 nickel is —— cents less than 1 half-dollar.

1 dime is —— cents less than 1 quarter.
1 cent is —— cents less than 1 quarter.
1 nickel is —— cents less than 1 quarter.

1 cent is —— cents less than 1 dime.
1 nickel is —— cents less than 1 dime.
1 cent is —— cents less than 1 nickel.

1 dollar – 1 cent = —— cents.
1 quarter – 1 dime = —— cents.
1 dime – 1 cent = —— cents.
1 dollar – 1 quarter = —— cents.
1 half-dollar – 1 quarter = —— cents.
1 dollar – 1 dime = —— cents.

$1 is — cents more than 2 quarters.
$1 is — cents more than 9 dimes.
$1 is — cents more than 75 cents.
$1 is — cents more than 3 quarters.
$1 is — cents more than 6 dimes.
$1 is — cents more than 5 nickels.
$1 is — cents more than 90 cents.

$1 is 1 half-dollar and — cents.
$1 is 3 quarters and — cents.
$1 is 1 half-dollar and — dimes.
$1 is 50 cents and — dimes.
$1 is 5 dimes and — quarters.
$1 is 2 quarters and — nickels.
$1 is 80 cents and — dimes.

One-half of 1 dollar is — cents.
One-half of 1 dime is — cents.
One-fifth of 1 quarter is — cents.
One-half of 1 half-dollar is — cents.
One-tenth of 1 dollar is — cents.
One-fourth of 1 dollar is — cents.

Nell had 1 dollar. She spent $\frac{1}{2}$ of her money Nell spent — cents; because $\frac{1}{2}$ of 1 dollar is 50 cents.

May had 1 half-dollar. She spent $\frac{1}{2}$ of her money. May spent — cents; because – – – – – –.

Tom had 1 dollar and earned 1 quarter. Tom has — cents; because – – – – – –.

Paul had 1 dollar and spent 1 quarter Paul has — cents; because – – – – – –.

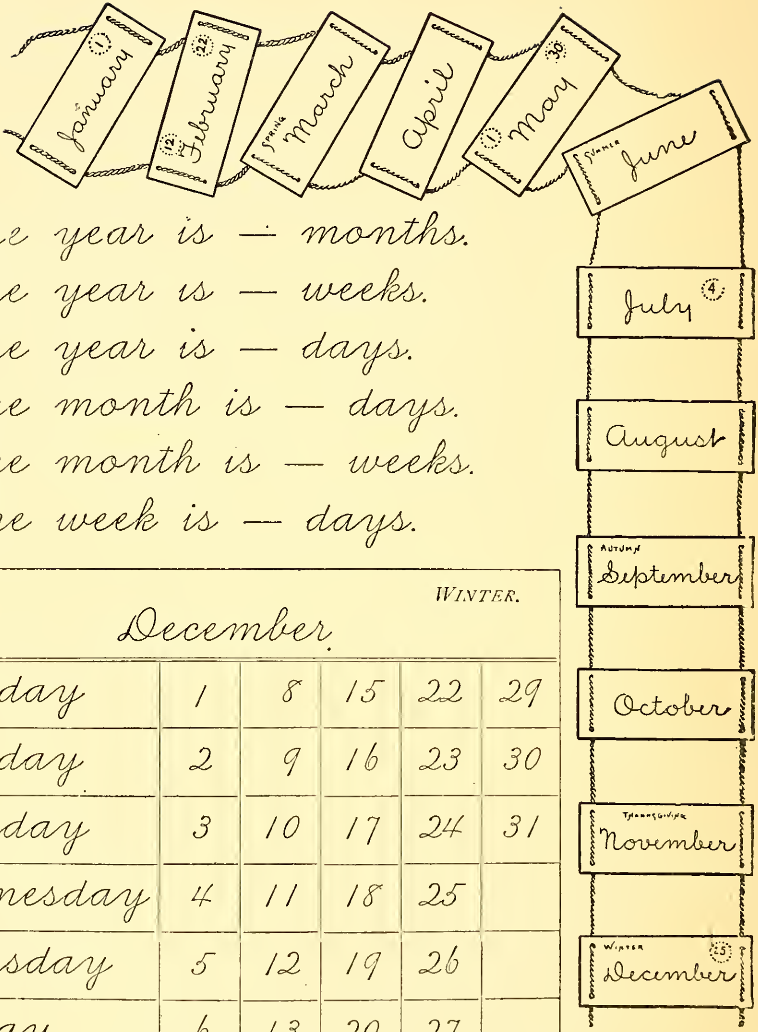
May has 1 quarter and Helen has 4 times as much money. Helen has —; because – – – – – –.

John had 1 dollar. He spent 1 dime. John has — cents; because – – – – – –.

Helen has 1 dime, which is $\frac{1}{2}$ of May's money. May has — cents; because – – – – – –.

Hugh paid 10 cents for a rose and 25 cents for a bunch of violets. Hugh paid — cents for the flowers; because – – – – – –.

Hazel paid 75 cents for a basket of apples and 25 cents for a basket of grapes. Hazel paid one — for the fruit; because – – – – – –.



One year is — months.
One year is — weeks.
One year is — days.
One month is — days.
One month is — weeks.
One week is — days.

WINTER.

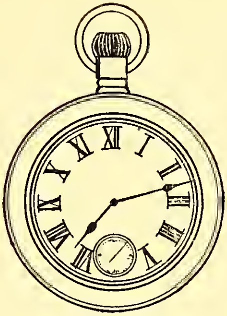
December.

Sunday	1	8	15	22	29
Monday	2	9	16	23	30
Tuesday	3	10	17	24	31
Wednesday	4	11	18	25	
Thursday	5	12	19	26	
Friday	6	13	20	27	
Saturday	7	14	21	28	

hour

minute

second



One day is — hours.
One hour is — minutes.
One minute is — seconds.

It is noon at — o'clock, day.
It is midnight at — o'clock, night.

We breakfast at — o'clock. We lunch at — o'clock. We eat dinner at — o'clock.

I go to bed at — o'clock and rise at — o'clock. Our school opens at — o'clock. In the summer the birds begin to sing at — o'clock.

1 month and 1 day are — days.
1 week and 1 day are — days.
1 year and 1 day are — days.
1 month and 1 week are — days.
1 year and 1 week are — days.
1 week and 1 week are — days.

1 month less 1 day is — days.
1 year less 1 day is — days.
1 week less 1 day is — days.
1 month less 4 days is — days.
1 week less 2 days is — days.
1 year less 10 days is — days.

One-half of one day is — hours.
One-half of one month is — days.
One-half of one hour is — minutes.
One-half of one year is — months.

Two months are — days.
Two weeks are — days.
Two days are — hours.

Three weeks are — days.
Fourteen days are — weeks.
Two months are — weeks.

LIQUID MEASURE.

1 gallon is — quarts.
1 quart is — pints.
1 pint is — gills.

1 gallon + 1 quart = — quarts.
1 quart + 1 pint = — pints.
1 pint + 1 gill = — gills.

1 gallon — 1 quart = — quarts.
1 quart — 1 pint = — pints.
1 pint — 1 gill = — gills.

Two gallons are — quarts.
Three quarts are — pints.
Two pints are — gills.
Two quarts are — pints.
Four pints are — quarts.
Eight quarts are — gallons.
Twelve quarts are — gallons.
Twelve pints are — quarts.

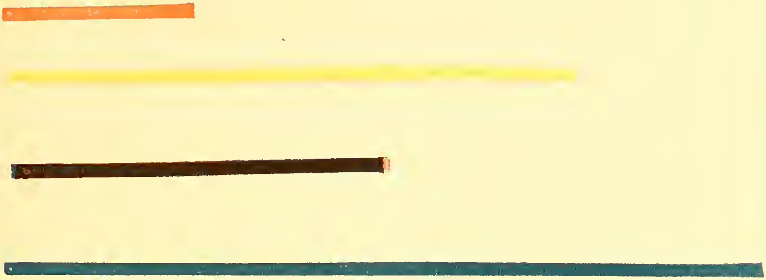
DRY MEASURE.

1 bushel is — pecks.
1 peck is — quarts.

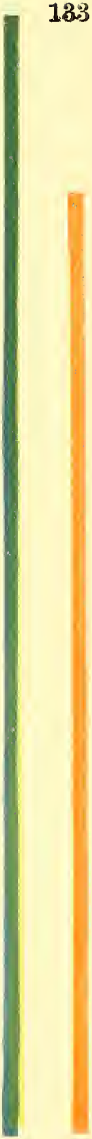
1 bushel and 1 peck are — pecks.
1 peck and 1 quart are — quarts.
1 bushel less 1 peck are — pecks.
1 peck less 1 quart are — quarts.

Two bushels are — pecks.
Two pecks are — quarts.
Three bushels are — pecks.
Three pecks are — quarts.

2 bushels and 1 peck are — pecks.
2 pecks and 2 quarts are — quarts.
2 bushels less 2 pecks are — pecks.
2 pecks less 4 quarts are — quarts.
2 bushels less 3 pecks are — pecks.
2 pecks less 6 quarts are — quarts.



The — line is one inch long.
The orange line is — inches long.
The yellow line is — inches long.
The — line is six inches long.
The — line is four inches long.
The purple line is — inches long.
The — line is the shortest line.
The — line is the longest line.
The yellow line is — inches longer
than the red line.
The purple line is — inches shorter
than the orange line.



LINEAR MEASURE.

1 yard is — feet.
1 yard is — inches.
1 foot is — inches.

1 yard + 1 foot = — feet.
1 foot + 1 inch = — inches.
1 yard + 1 inch = — inches.

1 yard – 1 foot = — feet.
1 yard – 1 inch = — inches.
1 foot – 1 inch = — inches.

Two yards are — feet.
Two yards are — inches.
Two feet are — inches.
Three feet are — inches.

2 yards and 2 feet are — feet.
2 yards and 1 inch are — inches.
2 feet and 3 inches are — inches.
3 feet and 4 inches are — inches.

Our Schoolroom.

Our schoolroom is — pretty. It is on the — side of the building. It faces the —.

The walls are —. I can find — pictures upon the walls. I have counted — windows. Each window has — panes. Our room has — doors.

This room is — feet long and — feet wide. I think it is about — feet high.

We have — tables and — chairs in our room. We have — plants in our windows. The pupils' desks are in — rows.

— boys and — girls are at school to-day. We are very — children.

REVIEW.

One day is one-seventh of one —.
One inch is one-twelfth of one —.
One week is one-fourth of one —.
One pint is one-half of one —
One month is one-twelfth of one —.
One dime is one-tenth of one —.

One quart is one-fourth of one —.
One nickel is one-half of one —.
One foot is one-third of one —.
One cent is one-tenth of one —.

Five cents is one-half of one —.
Two quarts is one-half of one —.
Two weeks is one-half of one —.
One nickel is one-third of — cents.
One quarter is one-half of — cents.

One-half of one dollar is — quarters.
One-half of one gallon is — quarts.
One-half of one foot is — inches.
One-fifth of one quarter is — cents.

4 nests
3 barns
10 houses
? ——

4 dolls
6 tops
9 balls
? ——

3 flies
2 butterflies
5 spiders
? ——

4 brooks
3 rivers
4 creeks
? ——

4 pearls
6 diamonds
3 rubies
? ——

6 boats
4 steamers
5 ships
? ——

4 hammers
5 saws
1 file
? ——

7 robins
6 canaries
4 red birds
? ——

5 shawls
3 cloaks
2 capes
? ——

7 turnips
3 potatoes
5 beets
? ——

2	4	9	3	4	7	9	4	4	6
3	6	8	2	2	6	8	3	3	8
6	9	7	6	9	4	4	9	6	9
9	8	2	4	3	3	6	7	5	5
8	3	4	1	8	7	5	2	2	2

7	6	2	7	9	2	7	9	7	9
4	5	6	4	6	1	6	8	6	8
2	4	5	3	4	5	4	5	5	4
8	3	4	2	3	9	3	6	2	2
1	9	6	5	4	8	2	4	1	6

7	9	7	9	6	9	5	5	2	8
5	8	8	4	8	7	2	3	7	3
6	2	6	5	3	2	4	6	9	2
4	6	5	6	4	6	6	4	4	9
3	4	3	1	5	4	5	8	6	4

7	8	9	7	9	7	2	3	2	4
4	2	3	4	8	8	4	2	6	3
6	7	4	6	2	9	6	4	3	3
5	4	6	5	6	5	8	7	5	2
3	6	8	3	4	6	9	8	2	6

22	16	10	52	16	32	16
31	11	11	32	11	14	21
41	12	46	11	21	11	32

19	23	21	46	45	42	16
26	14	81	32	46	23	21
11	16	42	25	29	33	33
14	12	45	32	31	11	12

23	73	42	56	23	32	34
25	28	36	24	45	46	25
61	46	54	32	26	25	26
42	25	27	46	81	22	43

456	413	326	241	246	333
211	425	133	137	211	144

346	332	133	432	346	125
122	416	342	146	122	425
241	213	126	221	246	236

232	356	132	233	423	127
214	222	246	346	134	223
123	321	241	223	231	346
242	126	133	321	324	252

12	22	34	45	26
12	22	34	45	26
$\underline{12}$	$\underline{22}$	$\underline{34}$	$\underline{45}$	$\underline{26}$

12	22	34	45	26
$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$

46	32	25	27	17
46	32	25	27	17
46	32	25	27	17
$\underline{46}$	$\underline{32}$	$\underline{25}$	$\underline{27}$	$\underline{17}$

46	32	25	27	17
$\underline{\times 4}$	$\underline{\times 4}$	$\underline{\times 4}$	$\underline{\times 4}$	$\underline{\times 4}$

223	416	227	135	246
223	416	227	135	246
$\underline{223}$	$\underline{416}$	$\underline{227}$	$\underline{135}$	$\underline{246}$

223	416	227	135	246
$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$

123	246	101	200	208
123	246	101	200	208
$\underline{123}$	$\underline{246}$	$\underline{101}$	$\underline{200}$	$\underline{208}$

123	246	101	200	208
$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$	$\underline{\times 3}$

$$\begin{array}{cccccccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 \\ \underline{1} & \underline{2} & \underline{3} & \underline{4} & \underline{5} & \underline{6} & \underline{7} & \underline{8} & \underline{9} & \underline{10} & \underline{11} & \underline{12} \end{array}$$

Two 2's = ?
Two 1's = ?
Two 3's = ?
Two 5's = ?

Two 10's = ?
Two 9's = ?
Two 12's = ?
Two 11's = ?

Two 4's = ?
Two 6's = ?
Two 7's = ?
Two 8's = ?

$1 \times 2 = ?$
$2 \times 2 = ?$
$3 \times 2 = ?$
$4 \times 2 = ?$

$12 \times 2 = ?$
$11 \times 2 = ?$
$10 \times 2 = ?$
$9 \times 2 = ?$

$5 \times 2 = ?$
$8 \times 2 = ?$
$7 \times 2 = ?$
$6 \times 2 = ?$

? is $\frac{1}{2}$ of 20.
? is $\frac{1}{2}$ of 24.
? is $\frac{1}{2}$ of 18.
? is $\frac{1}{2}$ of 12.

? is $\frac{1}{2}$ of 10.
? is $\frac{1}{2}$ of 2.
? is $\frac{1}{2}$ of 4.
? is $\frac{1}{2}$ of 8.

? is $\frac{1}{2}$ of 22.
? is $\frac{1}{2}$ of 6.
? is $\frac{1}{2}$ of 14.
? is $\frac{1}{2}$ of 16.

$? \div 2 = 1$
$? \div 2 = 6$
$? \div 2 = 10$
$? \div 2 = 12$

$? \div 2 = 4$
$? \div 2 = 11$
$? \div 2 = 9$
$? \div 2 = 3$

$? \div 2 = 8$
$? \div 2 = 2$
$? \div 2 = 7$
$? \div 2 = 5$

1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12
$\underline{1}$	$\underline{2}$	$\underline{3}$	$\underline{4}$	$\underline{5}$	$\underline{6}$	$\underline{7}$	$\underline{8}$	$\underline{9}$	$\underline{10}$	$\underline{11}$	$\underline{12}$

Three 2's = ?
Three 4's = ?
Three 3's = ?
Three 5's = ?

Three 10's = ?
Three 9's = ?
Three 12's = ?
Three 11's = ?

Three 1's = ?
Three 6's = ?
Three 7's = ?
Three 8's = ?

$1 \times 3 = ?$
$2 \times 3 = ?$
$3 \times 3 = ?$
$4 \times 3 = ?$

$12 \times 3 = ?$
$11 \times 3 = ?$
$10 \times 3 = ?$
$9 \times 3 = ?$

$5 \times 3 = ?$
$6 \times 3 = ?$
$7 \times 3 = ?$
$8 \times 3 = ?$

? is $\frac{1}{3}$ of 3.
? is $\frac{1}{3}$ of 9.
? is $\frac{1}{3}$ of 15.
? is $\frac{1}{3}$ of 21.

? is $\frac{1}{3}$ of 6.
? is $\frac{1}{3}$ of 12.
? is $\frac{1}{3}$ of 18.
? is $\frac{1}{3}$ of 24.

? is $\frac{1}{3}$ of 36.
? is $\frac{1}{3}$ of 33.
? is $\frac{1}{3}$ of 30.
? is $\frac{1}{3}$ of 27.

$? \div 3 = 1$
$? \div 3 = 3$
$? \div 3 = 5$
$? \div 3 = 4$

$? \div 3 = 12$
$? \div 3 = 9$
$? \div 3 = 7$
$? \div 3 = 8$

$? \div 3 = 2$
$? \div 3 = 6$
$? \div 3 = 10$
$? \div 3 = 11$

1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12
$\underline{1}$	$\underline{2}$	$\underline{3}$	$\underline{4}$	$\underline{5}$	$\underline{6}$	$\underline{7}$	$\underline{8}$	$\underline{9}$	$\underline{10}$	$\underline{11}$	$\underline{12}$

Four 1's = ?
Four 4's = ?
Four 10's = ?
Four 7's = ?

Four 2's = ?
Four 5's = ?
Four 11's = ?
Four 8's = ?

Four 3's = ?
Four 6's = ?
Four 12's = ?
Four 9's = ?

1 × 4 = ?
2 × 4 = ?
3 × 4 = ?
4 × 4 = ?

5 × 4 = ?
6 × 4 = ?
7 × 4 = ?
8 × 4 = ?

9 × 4 = ?
10 × 4 = ?
11 × 4 = ?
12 × 4 = ?

1 is $\frac{1}{4}$ of ?
3 is $\frac{1}{4}$ of ?
4 is $\frac{1}{4}$ of ?
2 is $\frac{1}{4}$ of ?

10 is $\frac{1}{4}$ of ?
6 is $\frac{1}{4}$ of ?
5 is $\frac{1}{4}$ of ?
7 is $\frac{1}{4}$ of ?

8 is $\frac{1}{4}$ of ?
11 is $\frac{1}{4}$ of ?
12 is $\frac{1}{4}$ of ?
9 is $\frac{1}{4}$ of ?

? ÷ 4 = 1
? ÷ 4 = 3
? ÷ 4 = 2
? ÷ 4 = 5

? ÷ 4 = 10
? ÷ 4 = 11
? ÷ 4 = 9
? ÷ 4 = 8

? ÷ 4 = 4
? ÷ 4 = 6
? ÷ 4 = 7
? ÷ 4 = 12

1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12
$\underline{1}$	$\underline{2}$	$\underline{3}$	$\underline{4}$	$\underline{5}$	$\underline{6}$	$\underline{7}$	$\underline{8}$	$\underline{9}$	$\underline{10}$	$\underline{11}$	$\underline{12}$

Five 1's = ?
Five 7's = ?
Five 10's = ?
Five 4's = ?

Five 2's = ?
Five 8's = ?
Five 11's = ?
Five 5's = ?

Five 3's = ?
Five 6's = ?
Five 12's = ?
Five 9's = ?

$1 \times 5 = ?$
$2 \times 5 = ?$
$3 \times 5 = ?$
$4 \times 5 = ?$

$5 \times 5 = ?$
$6 \times 5 = ?$
$7 \times 5 = ?$
$8 \times 5 = ?$

$9 \times 5 = ?$
$10 \times 5 = ?$
$11 \times 5 = ?$
$12 \times 5 = ?$

6 is $\frac{1}{5}$ of ?
4 is $\frac{1}{5}$ of ?
2 is $\frac{1}{5}$ of ?
1 is $\frac{1}{5}$ of ?

10 is $\frac{1}{5}$ of ?
9 is $\frac{1}{5}$ of ?
7 is $\frac{1}{5}$ of ?
3 is $\frac{1}{5}$ of ?

5 is $\frac{1}{5}$ of ?
8 is $\frac{1}{5}$ of ?
11 is $\frac{1}{5}$ of ?
12 is $\frac{1}{5}$ of ?

$? \div 5 = 1$
$? \div 5 = 10$
$? \div 5 = 12$
$? \div 5 = 9$

$? \div 5 = 2$
$? \div 5 = 3$
$? \div 5 = 4$
$? \div 5 = 5$

$? \div 5 = 11$
$? \div 5 = 6$
$? \div 5 = 7$
$? \div 5 = 8$